Netis WF-2301 150Mbps Wireless N Outdoor AP User Manual

Delton

1141 Budapest, Fogarasi út 77.
Tel.: *220-7940, 220-7814, 220-7959,
220-8881, 364-3428 Fax: 220-7940
Mobil: 30 531-5454, 30 939-9989

1095 Budapest, Mester u. 34.
Tel.: *218-5542, 215-9771, 215-7550,
216-7017, 216-7018 Fax: 218-5542
Mobil: 30 940-1970, 20 949-2688

www.netis-systems.hu

E-mail: info@delton.hu Web: www.delton.hu

Certification

FCC CE

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.

-Increase the separation between the equipment and receiver.

-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-Consult the dealer or an experienced radio/TV technician for help.

To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example- use only shielded interface cables when connecting to computer or peripheral devices)

FCC Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

Caution!

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user authority to operate the equipment

Package Contents

The following items should be found in your package

- 150Mbps Wireless-N Outdoor AP
- Power adapter
- Quick Installation Guide
- User Manual
- CD-Rom

Please make sure that the package contains the above items, if any of the listed items are damaged or missing, please contact with your distributor.

Before Installing

This manual is designed to help you correctly use this outdoor AP, before you install the outdoor AP, please read the manual.

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1 Introduction

1.1 Product Overview

Outdoor AP is dedicated to district Wireless network solution , operating in the 2.4GHz frequency band, complies with IEEE802.11n technical standards, data transfer rate up to 150Mbps, the output power of up to 500mA. With all kinds of outdoor antenna for use, cover range, the Long-distance transmission. It is easy to installation outdoor, hanging, and could use in cold, heat and other environmental, designed for outdoor environments. Support WEP, WPA, WPA2, WPA/WPA2 wireless encryption modes, improve security and prevent loiter network. WEB management and remote management of your real-time monitoring for network management and provides convenience.

1.2 Main Features

Ø Comply with to IEEE802.11n/g/b、IEEE802.3 10 Base-T、IEEE802.3u 100 Base-TX standards

Ø Support firmware upgrade

Ø Support WEP，WPA，WPA2 、WPA/WPA2 encryption security

Ø Support basic DHCP server Settings

Ø Support wireless modes: AP, WDS, AP + WDS, client, repeater,Lazy

Ø Support UPnP Settings

Ø Output power up to 27dB, high-gain antenna

Ø Suitable interface with the N-type antenna.

Ø Suitable for outdoor cold, hot environment.

Ø Install simply

1.3 Supporting Standard and Protocol

- IEEE 802.11b/g/n
- IEEE 802.11e
- IEEE 802.11h
- IEEE 802.11k
- IEEE 802.11i
- IEEE 802.3 10Base-T
- IEEE 802.3u 100Base-TX

1.4 Working Environment

Temperature

- -10° to 70° C (operating)
- -30° to 80° C (storage)

Humidity

- 10% to 90 % non-condensing (operating)
- 5% to 90% non-condensing (storage)

Power

- DC 18V 0.7A

2 Hardware Installation

2.1 System Requirement

Minimum Requirements:

- Broadband Internet access service (DSL / Cable / Ethernet)
- Internet Explorer® 5.0, Firefox® 2.0 or Safari® 1.4 or higher for Web configuration
- 802.11n，802.11g or 802.11b compliant wireless adapters (for wireless connection)
- Windows 98/2000/XP/2003/Vista or higher operating system

2.2 Panel

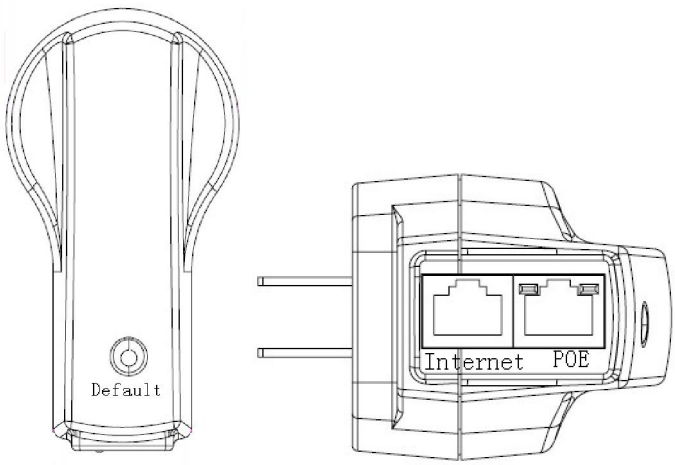

Figure 2-1 Power Adapter

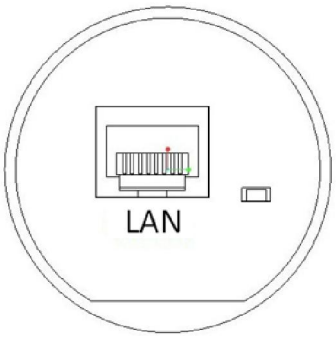

Figure 2-2 Outdoor AP Ethernet port

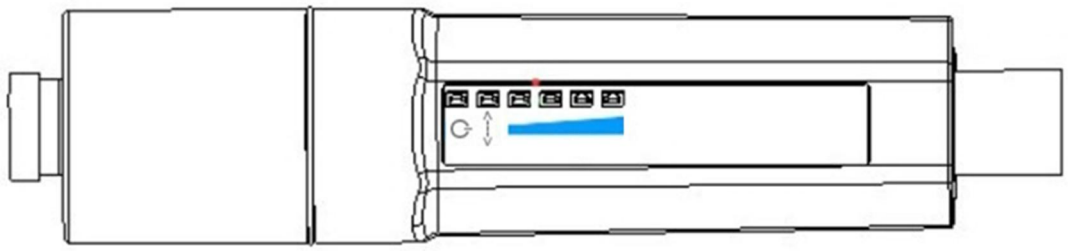

Figure 2-3

LED	Function	
	ON	Power on
	Off	Power off
	On	Connection normal
	Off	Abnormal
	Flashing	Data transmitting
POE	On	Power supply normal
	Off	Abnormal
	Flashing	4 light signal strength above 75% 3 light signal strength medium Less than 2 light signal strength is weak.
	Off	No signal

2.3 Restore to Factory Configuration

If the AP ever freezes in a setting change process or if you can't access it because you can't remember the IP you have given it or other problem, you may have to utilize the reset button on the back of the AP Power to put it back to factory settings. You have to press this button for a few seconds (2-6s) when it is working, then release and it will restore settings to the factory configuration.

The other way to restore factory settings is through the same user interface used in setup. Click on 'System management'- 'Restore', and click on the 'Restore' button.

2.4 Hardware Installation Procedures

The procedures to install the 150Mbps outdoor AP please refer to Figure 2-

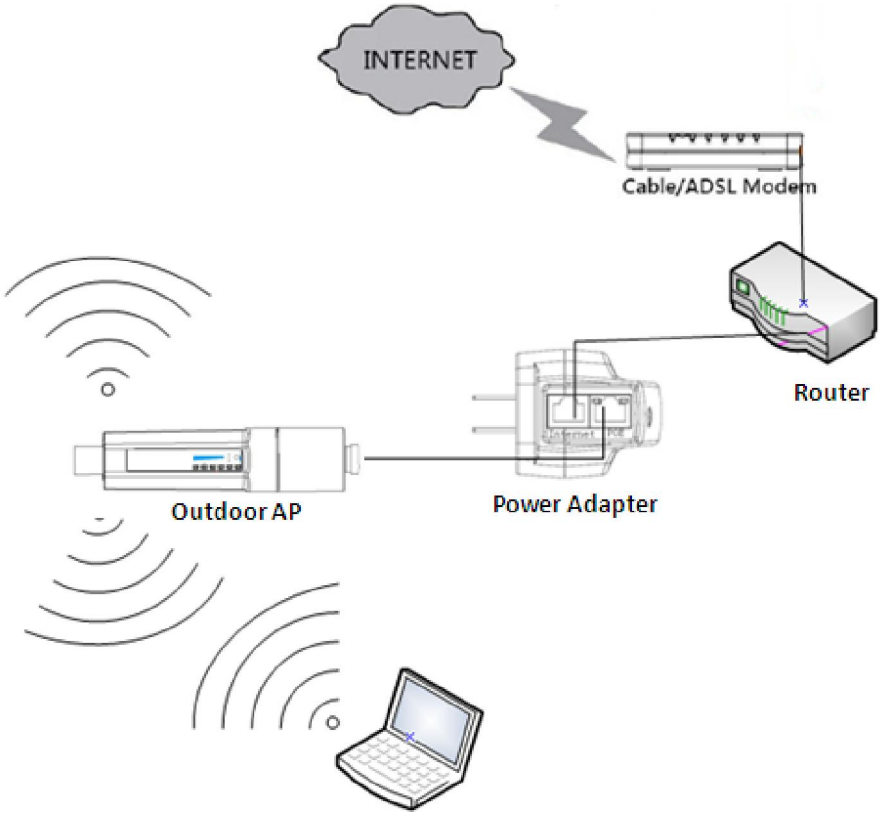

Figure 2-4

Ø Step 1 connecting Cable/ADSL Modem to the WAN port.

Attach one end of an Ethernet cable to your modem's Ethernet port, and the other end to one of the WAN ports of your router.

Ø Step 2 connecting the power adapter.

Attach one end of an Ethernet cable to the Internet access router LAN port, the other end to the Internet port of power adapter. Then plug the Power Adapter into an AC outlet.

Ø Step 3 connecting the 150Mpbs outdoor adapter.

Connect one side of your Ethernet cable to the POE port of your power adapter, the other side to the LAN port of the 150Mbps outdoor AP

Ø Step 4 Power on the following devices in this order:

Cable/ADSL modem, Router, AP and PCs

3 Login

You can manage the 150Mbps AP through the Web browser-based configuration utility. To configure the device via Web browser, at least one properly configured computer must be connected to the device via Ethernet or wireless network. The 150Mbps AP is configured with the **default IP address of 192.168.1.1** and **subnet mask of 255.255.255.0** and **its DHCP server is enabled by default**. Before setting up the Router, make sure your PCs are configured to obtain an IP address automatically from the Router by the steps below.

3.1 Configure Computer

3.1.1 Windows 98/Me

1. Go to Start à Settings à Control Panel.
2. Find and double-click the Network icon. The Network dialog box appears.
3. Click the Configuration label and ensure that you have network card.
4. Select TCP/IP. If TCP/IP appears more than once, please select the item that has an arrow " à " pointing to the network card installed on your computer. DO NOT choose the instance of TCP/IP with the words "Dial Up Adapter" beside it.
5. Click Properties. The TCP/IP Properties dialog box appears.
6. Ensure the Obtain IP Address Automatically is checked.
7. From the WINS Configuration dialog box, Ensure that Disable WINS Resolution is checked.
8. From the Gateway dialog box, remove all entries from the Installed gateways by selecting them and clicking Remove.
9. From the DNS Configuration dialog box, remove all entries from the DNS Server Search Order box by selecting them and clicking Remove. Remove all entries from the Domain Suffix Search Order box by selecting them and clicking Remove. Click Disable DNS.
10. Click OK, back to Network Configuration dialog box
11. Click OK, if prompted to restart, click YES.

3.1.2 Windows 2000

Please follow the steps below to setup your computer:

1. Go to Start à Settings à Control Panel

Figure 3-1

2. Double click the icon Network and Dial-up Connections

3. Highlight the icon Local Area Connection, right click your mouse, and click Properties

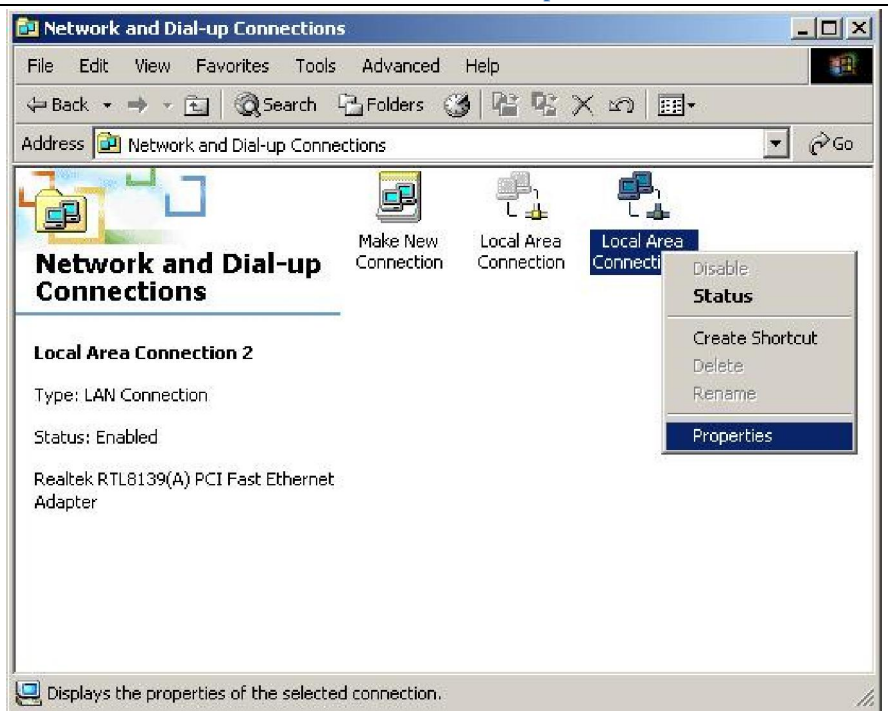

Figure 3-2

4. Highlight Internet Protocol (TCP/IP), and then press Properties button

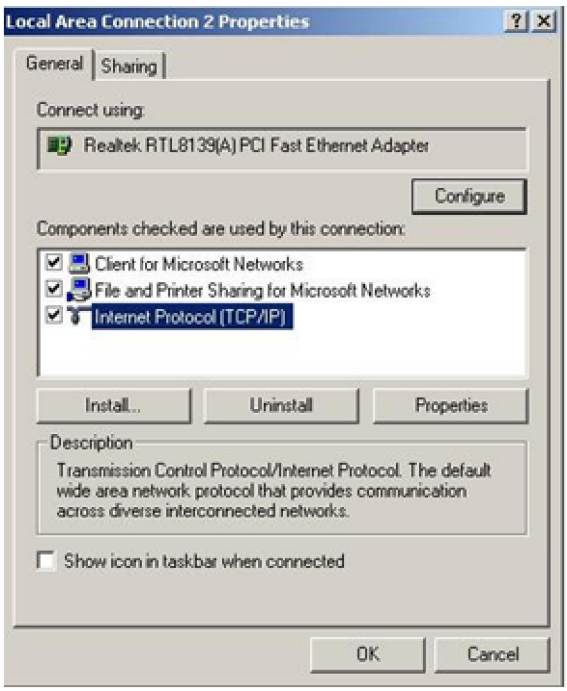

Figure 3-3

5. Choose Obtain an IP address automatically and Obtain DNS server address automatically, and then press OK to close the Internet Protocol (TCP/IP) Properties window

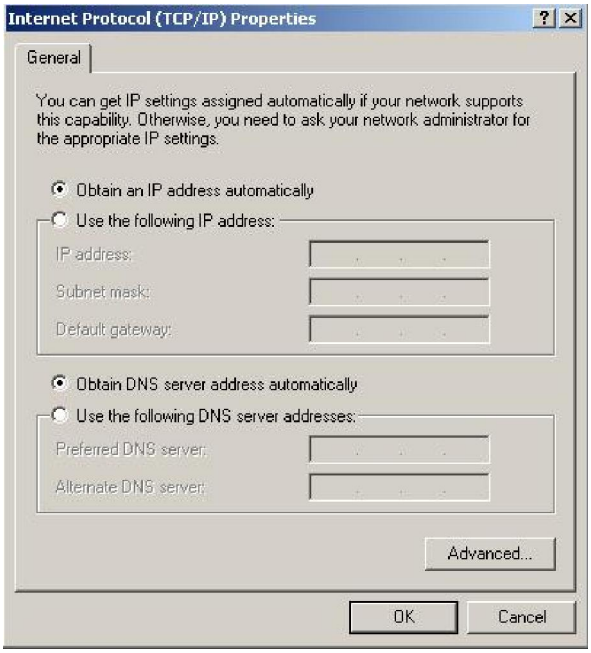
Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

Figure 3-4

6. Press OK to close the Local Area Connection Properties window

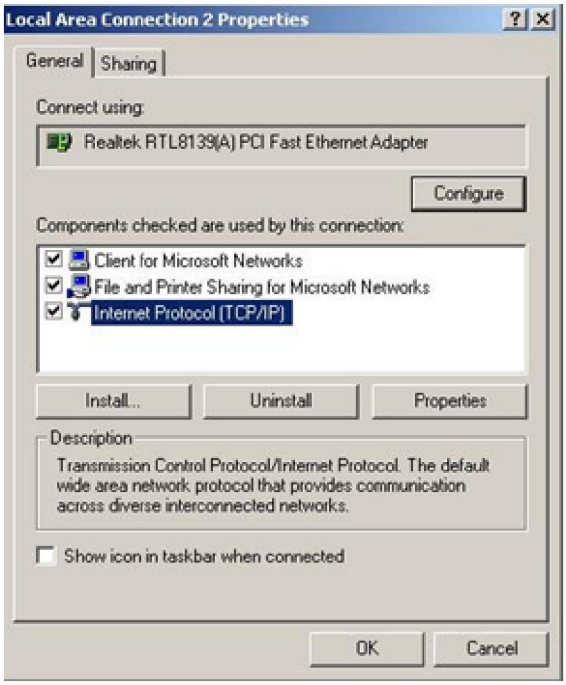

Figure 3-5

3.1.3 Windows XP

Please follow the steps below to setup your computer:

1. Go to Start à Settings à Control Panel

2. Click Network and Internet Connections

Figure 3-6

3. Click Network Connections

Figure 3-7

4. Highlight the icon Local Area Connection, right click your mouse, and click Properties

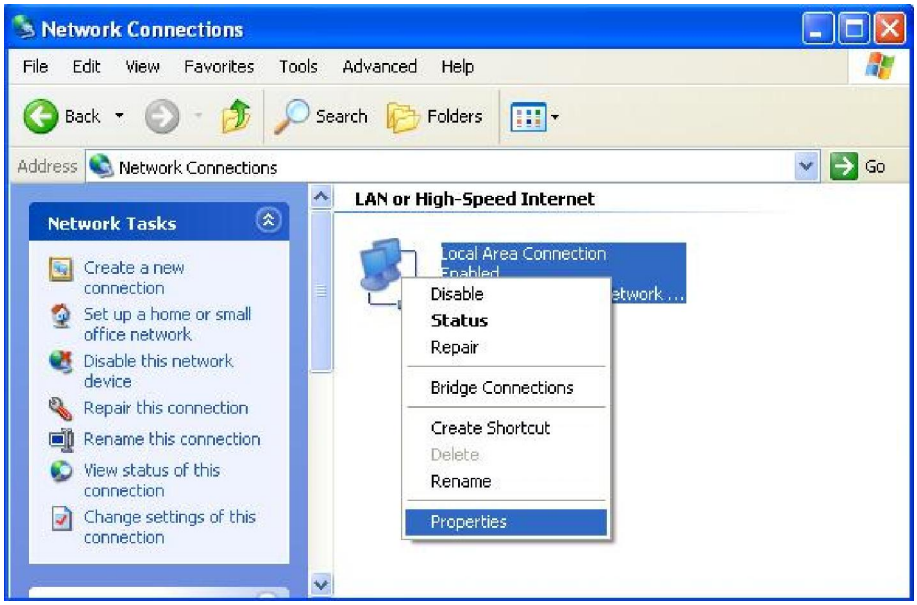

Figure 3-8

5. Highlight Internet Protocol (TCP/IP), and then press Properties button

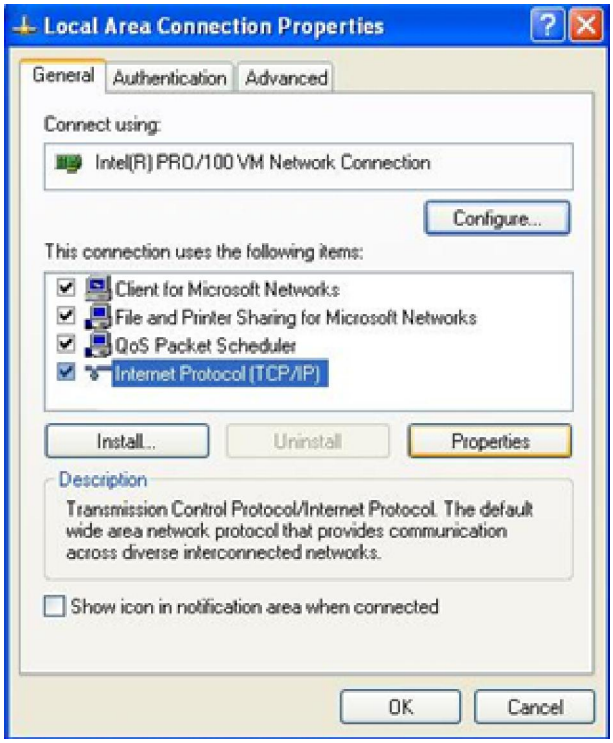

Figure 3-9

6. Choose Obtain an IP address automatically and Obtain DNS server address automatically, and then press OK to close the Internet Protocol (TCP/IP) Properties window

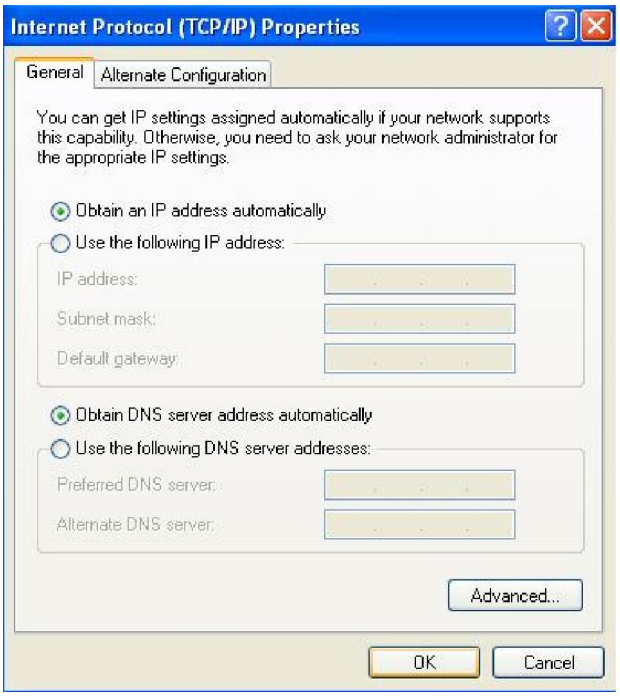
Internet Protocol (TCP/IP) Properties
General
Alternate Configuration
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

Figure 3-10

7. Press OK to close the Local Area Connection Properties window

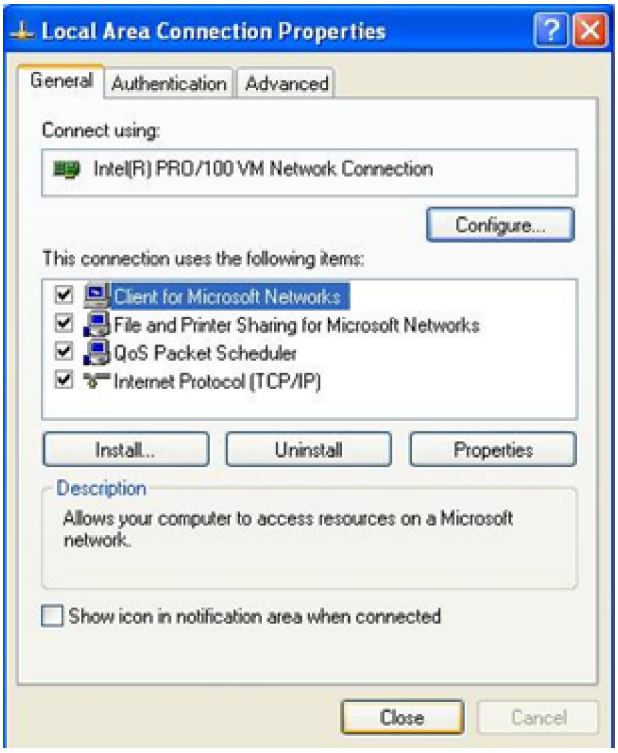

Figure 3-11

3.1.4 Windows Vista

Please follow the steps below to setup your computer:

1. Go to Start à Settings à Control Panel

2. Click Network and Sharing Center

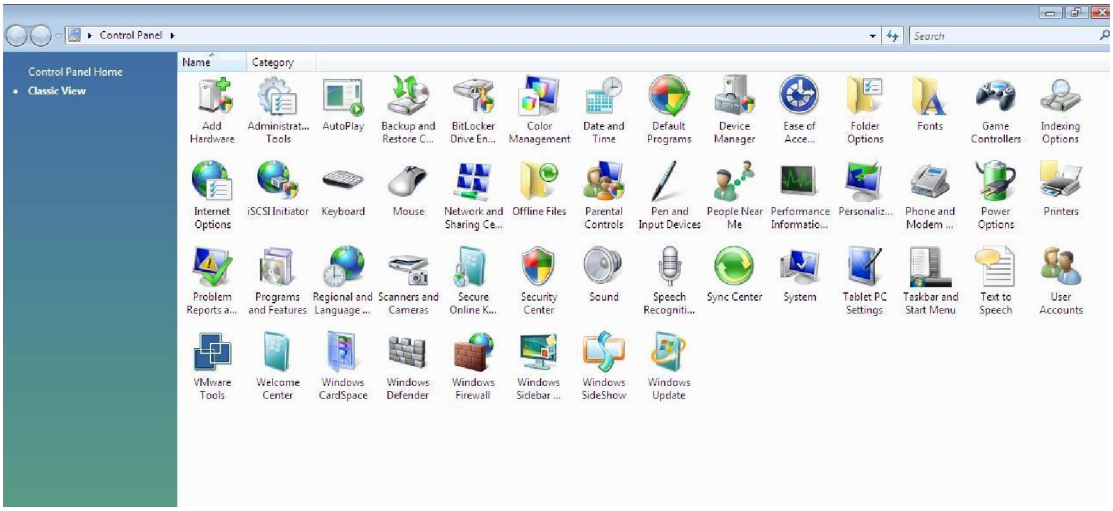

Figure 3-12

3. Click Manage Network Connections

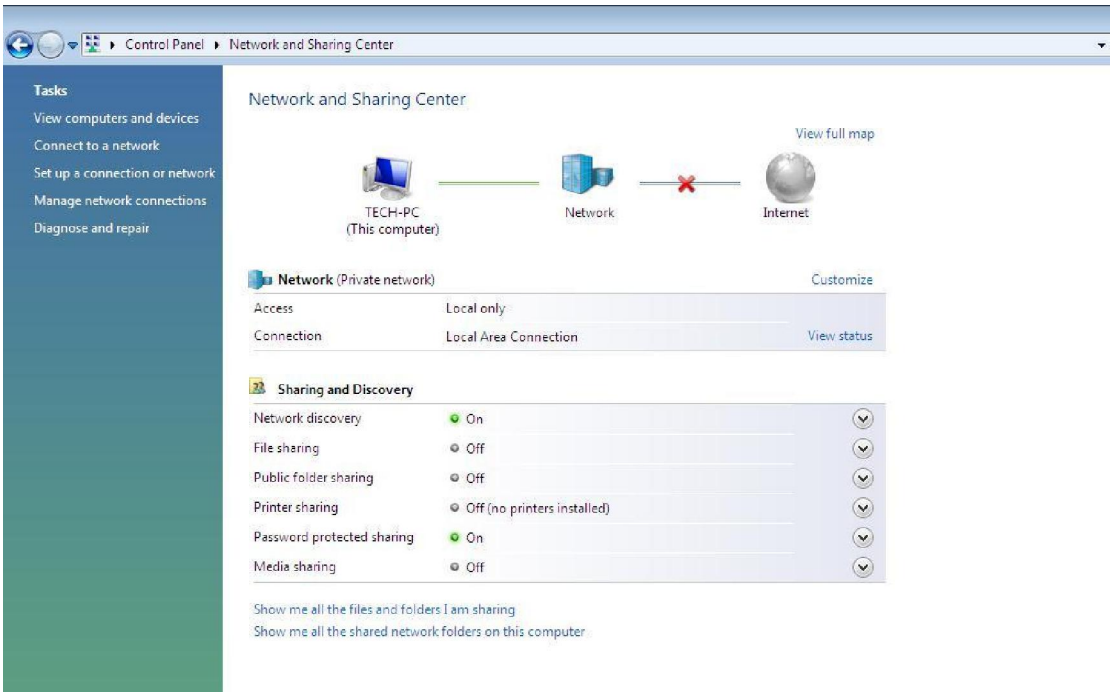

Figure 3-13

4. Highlight the icon Local Area Connection, right click your mouse, and click Properties

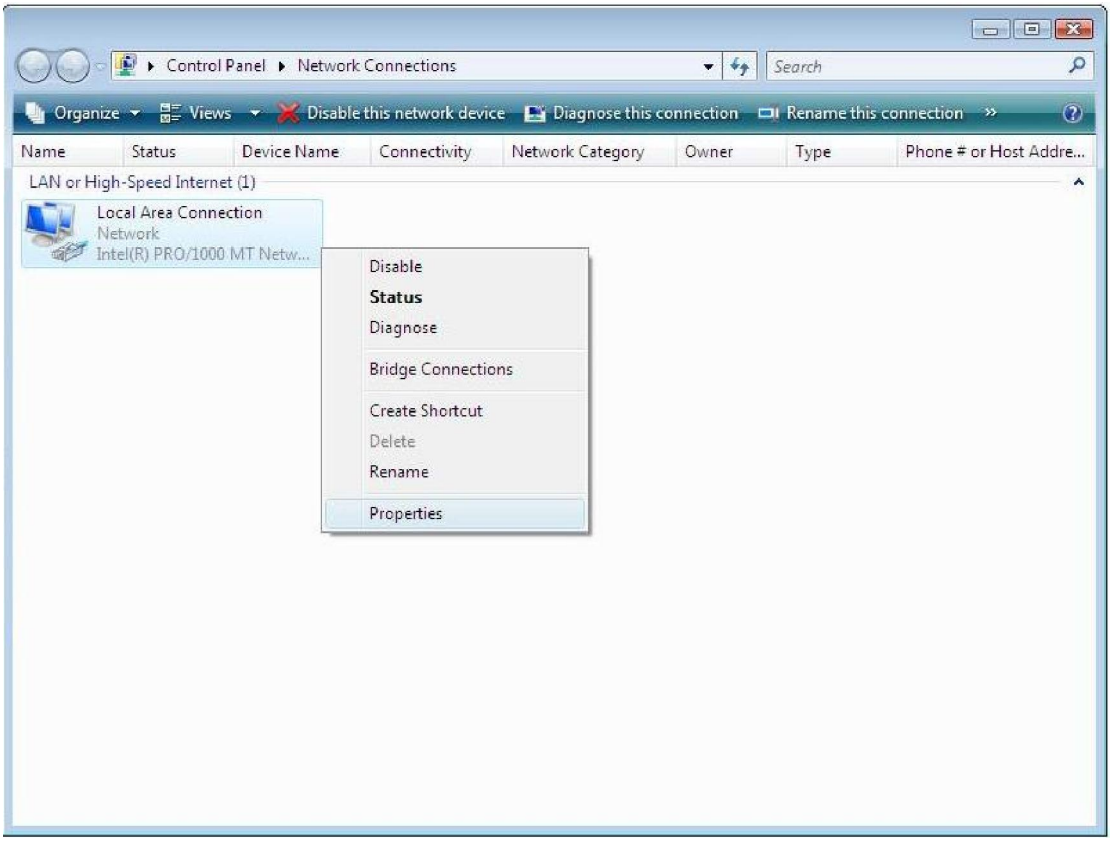

Figure 3-14

5. Highlight Internet Protocol Version 4 (TCP/IP) and then press Properties button

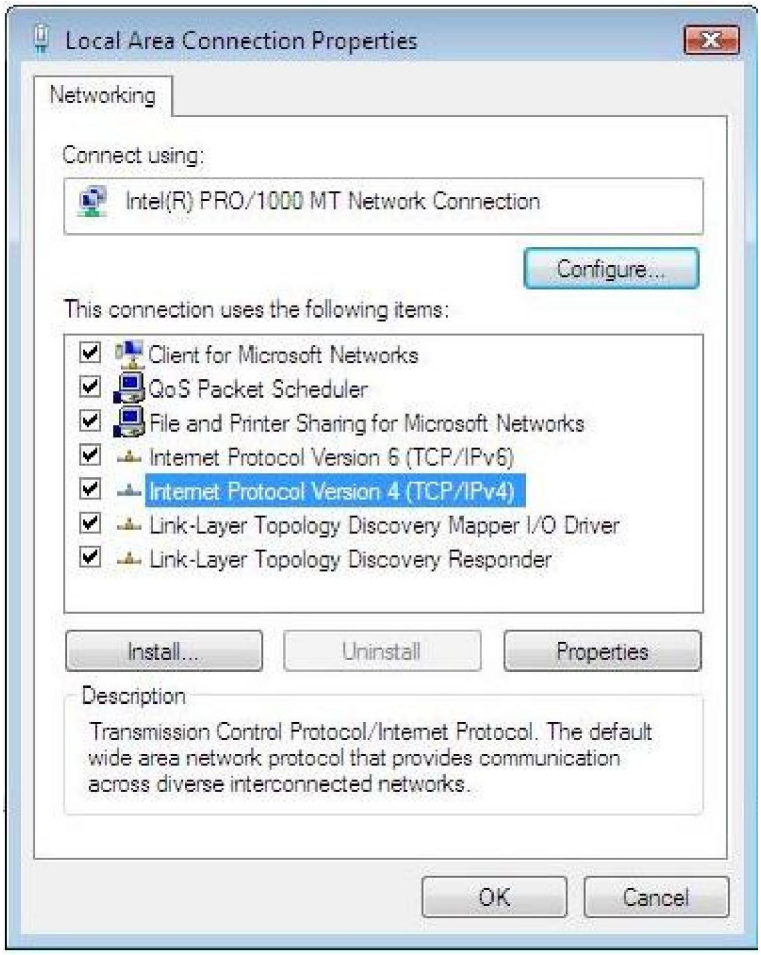

Figure 3-15

6. Choose Obtain an IP address automatically and Obtain DNS server address automatically, and then press OK to close the Internet Protocol (TCP/IP) Properties window

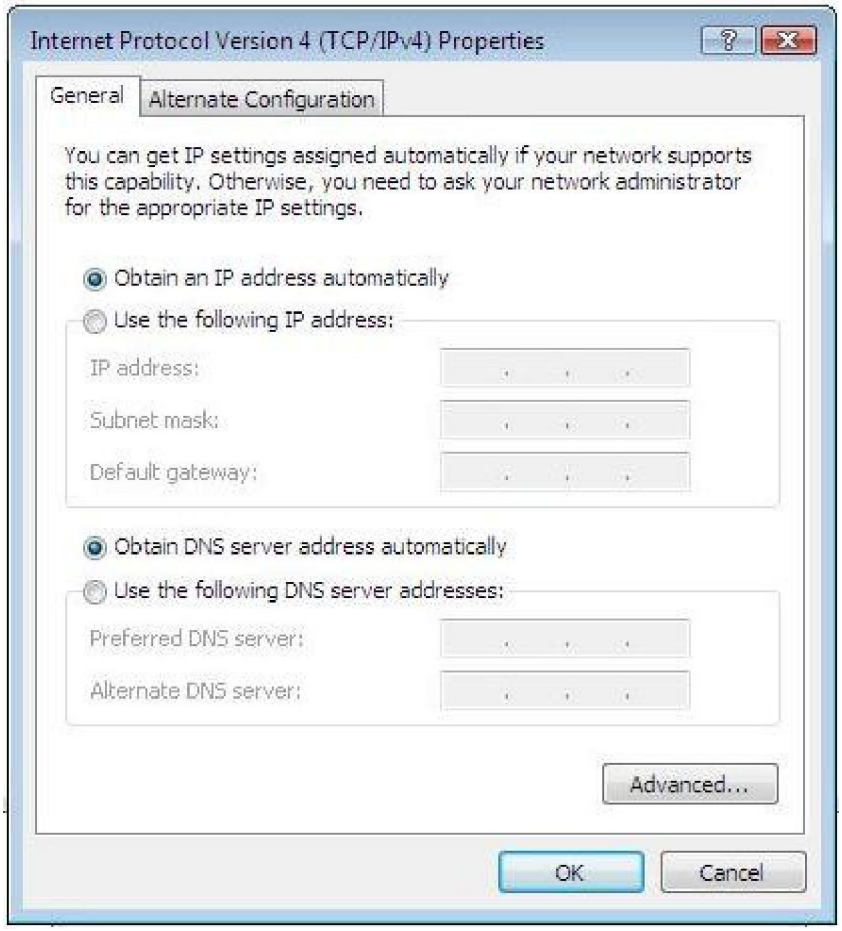
Internet Protocol Version 4 (TCP/IPv4) Properties
General
Alternate Configuration
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

Figure 3-16

7. Press OK to close the Local Area Connection Properties window.

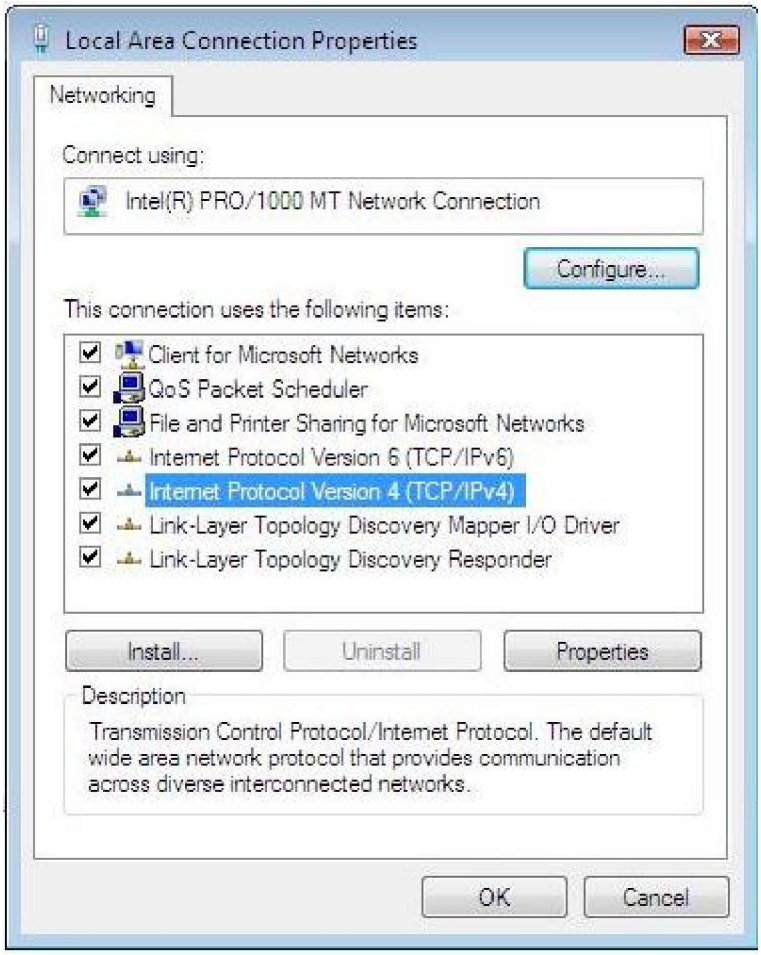

Figure 3-17

3.1.5 Windows 7

Please follow the steps blow to setup your computer：

1. Go to Start→ Control Panel→ Network and Internet.
2. Click Network and Sharing Center→ Change adapter settings.
3. Highlight the icon Local Area Connection, right click your mouse, and click Properties. Highlight Internet Protocol version 4 (TCP/IPv4).

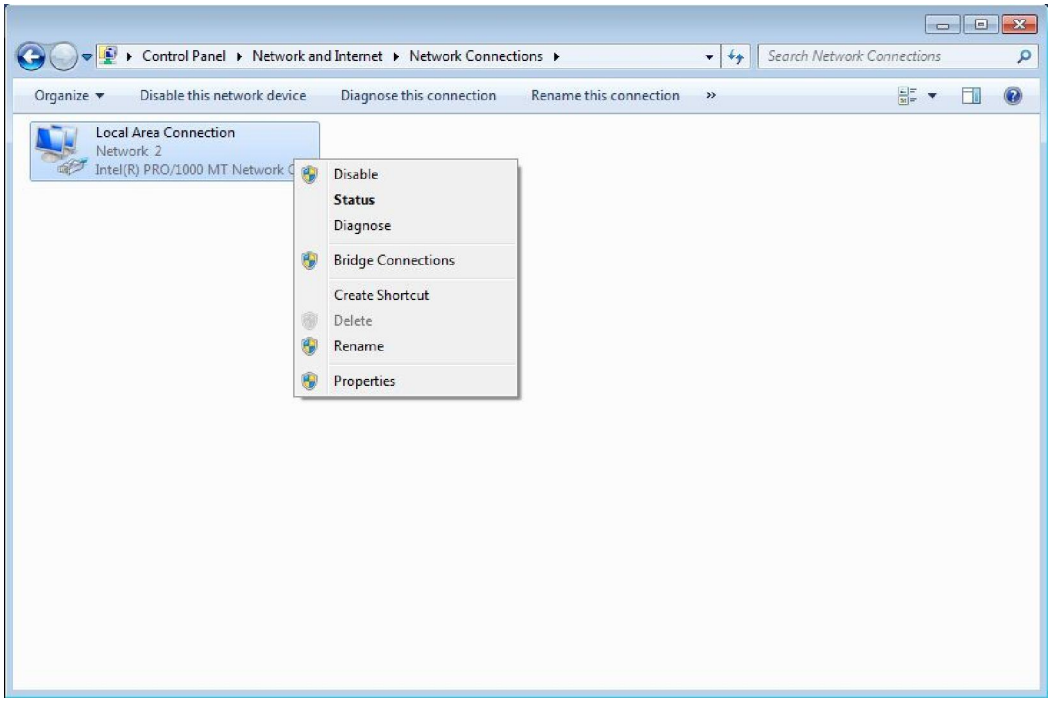

Figure 3-18

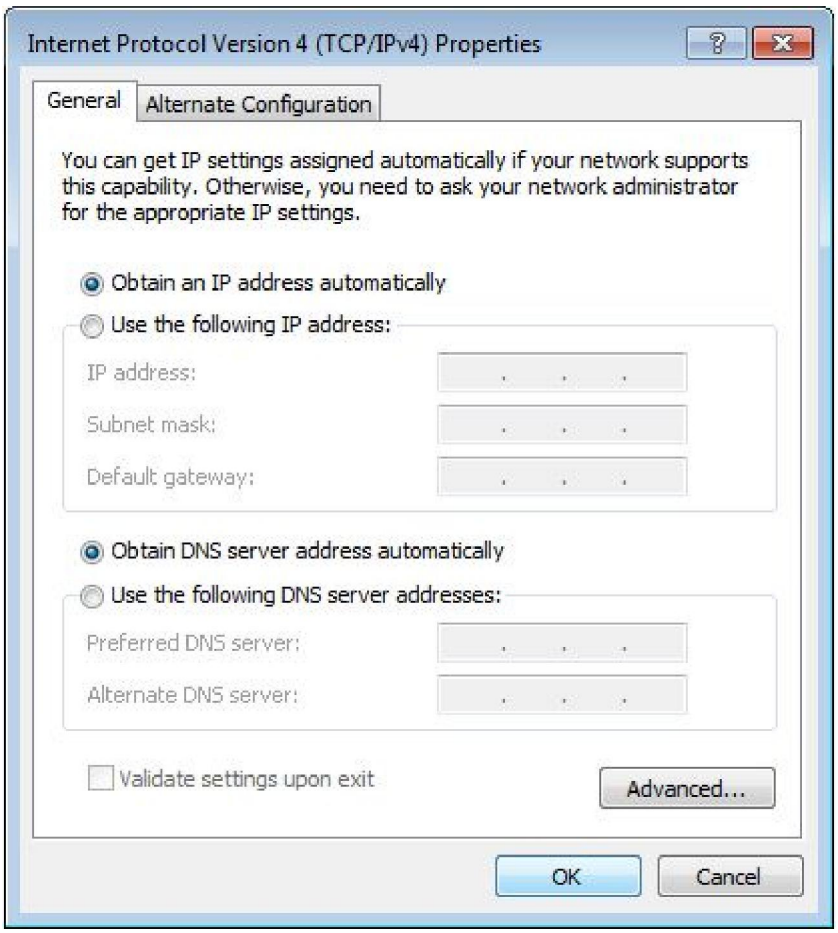
Internet Protocol Version 4 (TCP/IPv4) Properties
General
Alternate Configuration
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Validate settings upon exit
Advanced...
OK
Cancel

Figure 3-19

4. Choose Obtain an IP address automatically and Obtain DNS server address automatically, and then press the OK to close the window.

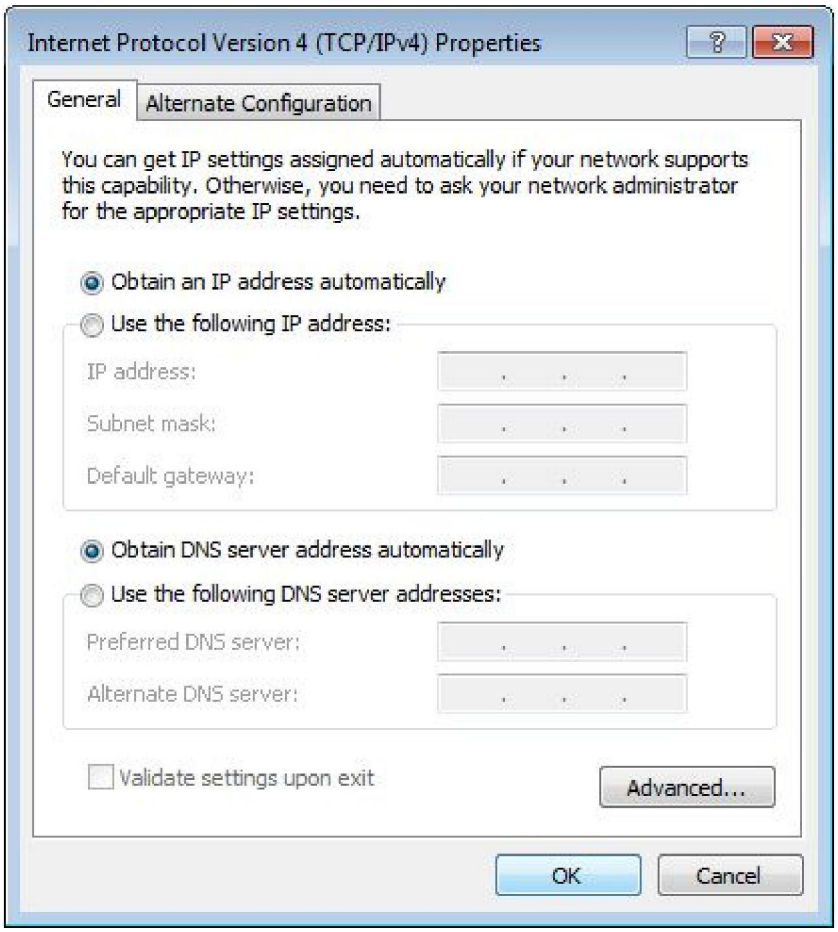
Internet Protocol Version 4 (TCP/IPv4) Properties
General
Alternate Configuration
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Validate settings upon exit
Advanced...
OK
Cancel

Figure 3-20

5. Press OK to close the Local Area Connection Properties window.

3.1.6 MAC OS

Please follow the steps blow to setup your computer:

1. Go to Start→ System preference Settings→ Network.

Figure 3-21

2. Click Network, Select Use DHCP at the Configuration bar, the system will get the IP address automatically.

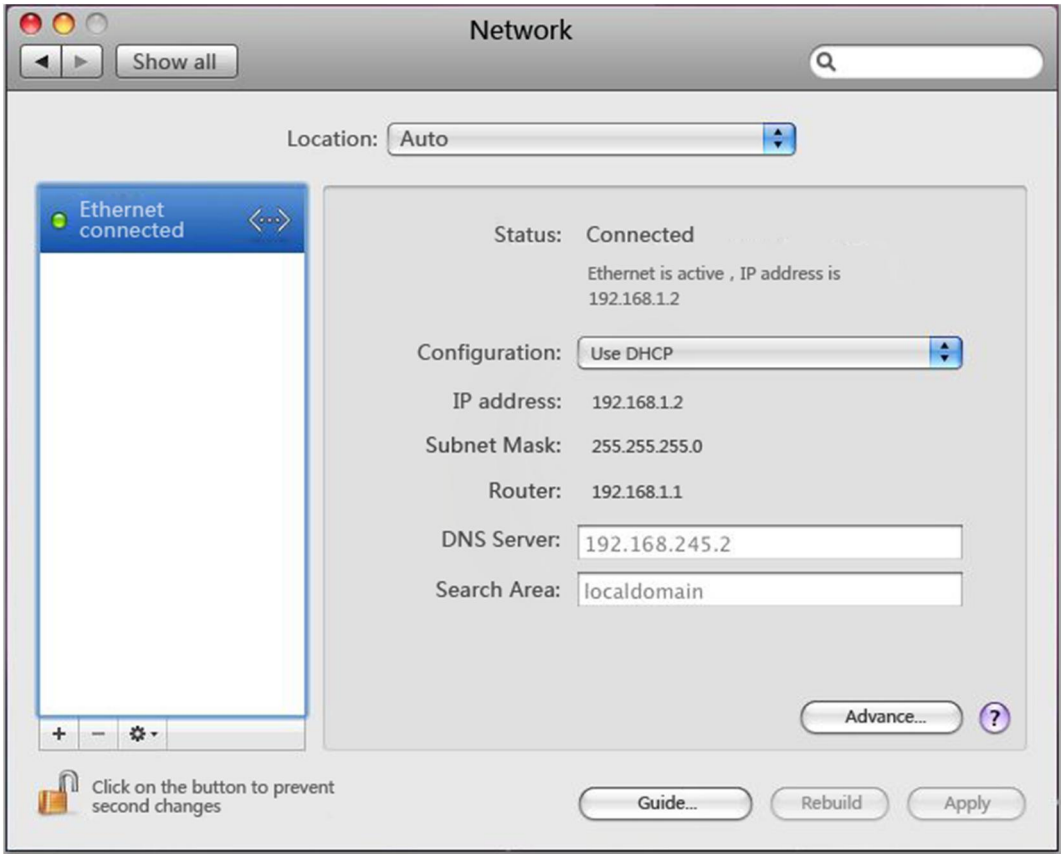

Figure 3-22

3. Press Apply to complete this operation and close the window.

3.2 Checking Connection with the Adapter

After configuring the TCP/IP protocol, use the ping command to verify if the computer can communicate with the AP. To execute the ping command, open the DOS window and Ping the IP address of the 150Mbps Outdoor AP at the DOS prompt:

Ø For Windows 98/Me: Start → Run. Type command and click OK.

Ø For Windows 2000/XP: Start → Run. Type cmd and click OK.

Ø For Windows Vista/7:Start→ Type cmd at the start search bar and press the Enter.

Ø For MAC OS→ The system will complete this operation automatically.

At the DOS prompt, type the following command:

If the Command window returns something similar to the following:

```
C:\Documents and Settings\admin>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.1: bytes=32 time=1ms TTL=64
Reply from 192.168.1.1: bytes=32 time=1ms TTL=64
Reply from 192.168.1.1: bytes=32 time=1ms TTL=64
Reply from 192.168.1.1: bytes=32 time=1ms TTL=64

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

Then the connection between the AP and your computer has been successfully established.

If the computer fails to connect to the AP, the Command window will return the following:

```
C:\Documents and Settings\admin>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

Verify your computer's network settings are correct and check the cable connection between the AP and the computer.

In order to make the whole network operate successfully, it is necessary to configure the 150Mbps AP through your computer has a WEB browser installed. Please follow up the steps listed below.

3.3 Login

Ø Open a web browser (Safari, Internet Explorer, etc.) on the computer you have just connected to the AP, type http://192.168.1.1 in the address bar, and press Enter

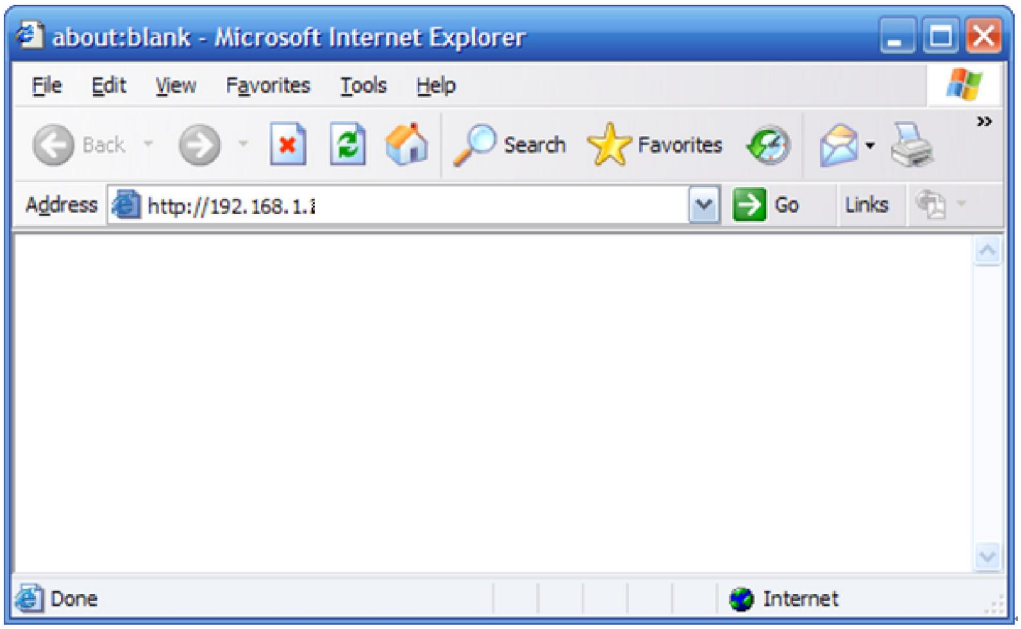

Figure 3-23

Ø In the pop-up window, enter the user name **guest** and password **guest** and then click **OK**

Figure 3-24

Ø After you have logged in, the router's user interface will be displayed. The left menu shows the main options to configure the system, and the right screen is the summary information for viewing and adjusting the configurations.

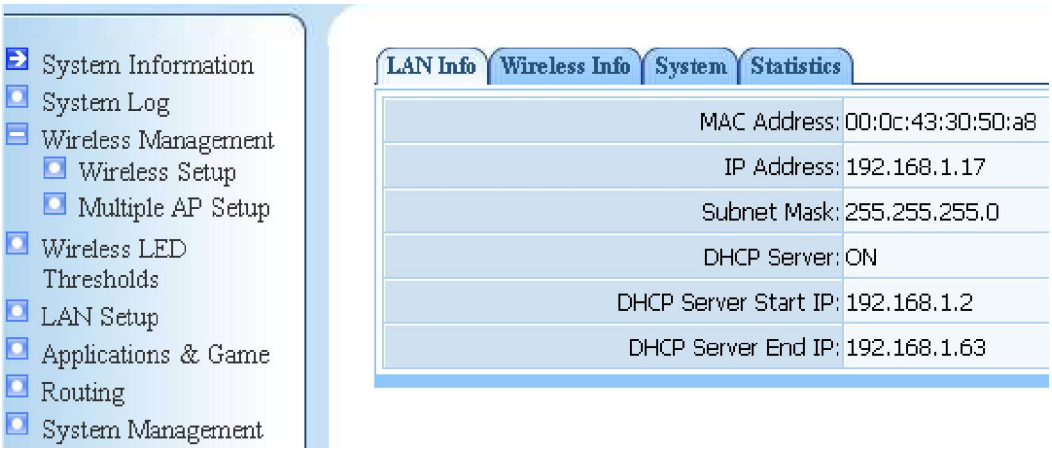
System Information
System Log
Wireless Management
Wireless Setup
Multiple AP Setup
Wireless LED Thresholds
LAN Setup
Applications & Game
Routing
System Management
LAN Info
Wireless Info
System
Statistics
MAC Address: 00:0c:43:30:50:a8
IP Address: 192.168.1.17
Subnet Mask: 255.255.255.0
DHCP Server: ON
DHCP Server Start IP: 192.168.1.2
DHCP Server End IP: 192.168.1.63

Figure 3-25

4 System Setting

4.1 System Information

This feature provides running status information and detailed information about router.

4.1.1 System

This item provides current running information of System.

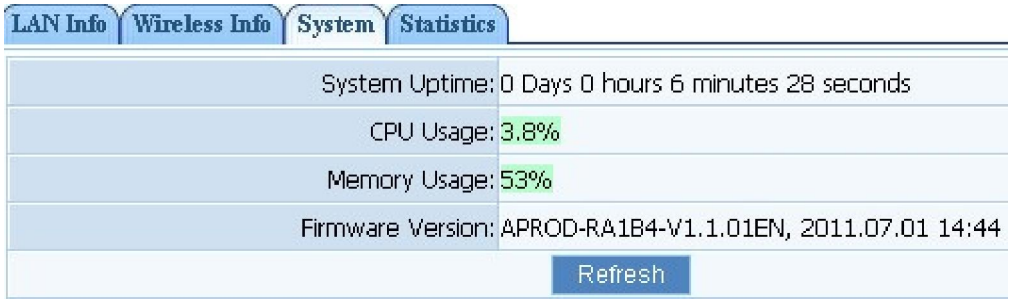

Figure 4-1

4.1.2 LAN Info

This item provides information about router's LAN port, display LAN port's physical address, IP address and current situation of DHCP server.

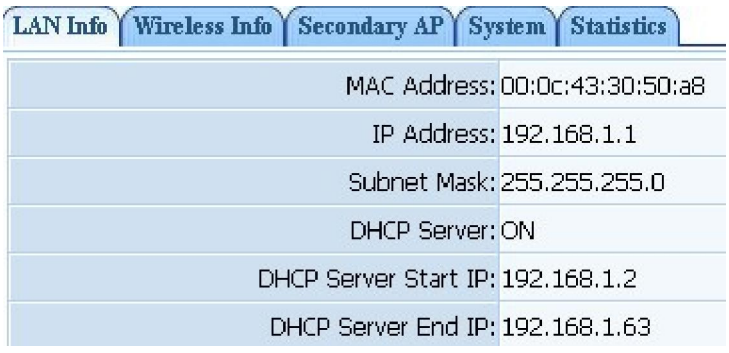

Figure 4-2

4.1.3 Wireless Info

This item provides current running information of wireless.

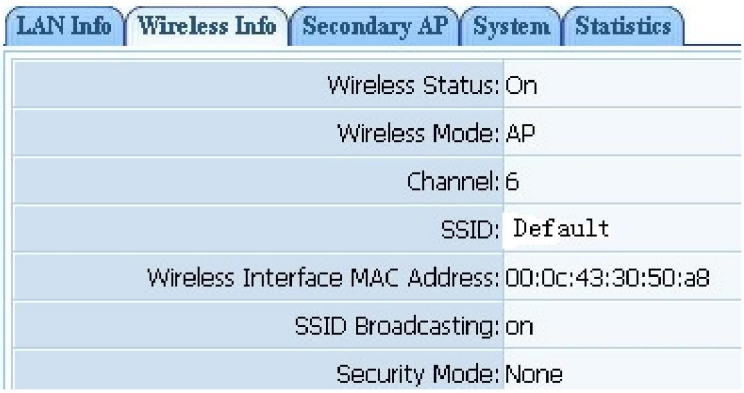

Figure 4-3

- Wireless status: Display wireless interface status is enabled or not
- Wireless Mode: Current wireless mode of wireless router
- Channel: Display current channel of your wireless router.
- SSID: SSID (Service Set Identifier) is your wireless network's name shared among all points in a wireless network.
- MAC Address: The MAC address is used for wireless communication

4.1.4 Secondary AP

This item provides current running information of Secondary AP.

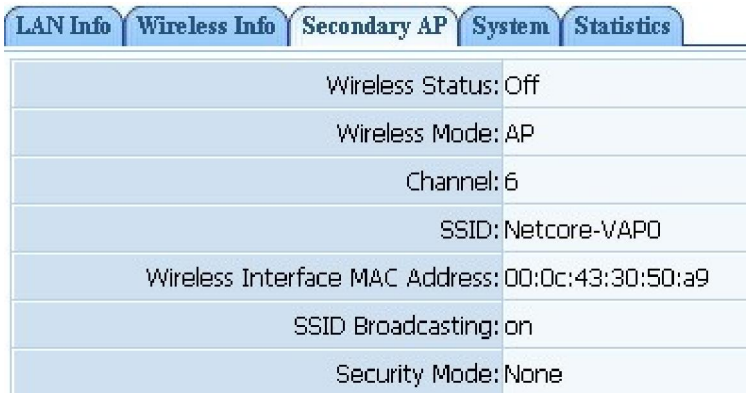

Figure 4-4

4.1.5 Statistics

This item provides statistics information about the bits router sends and received.

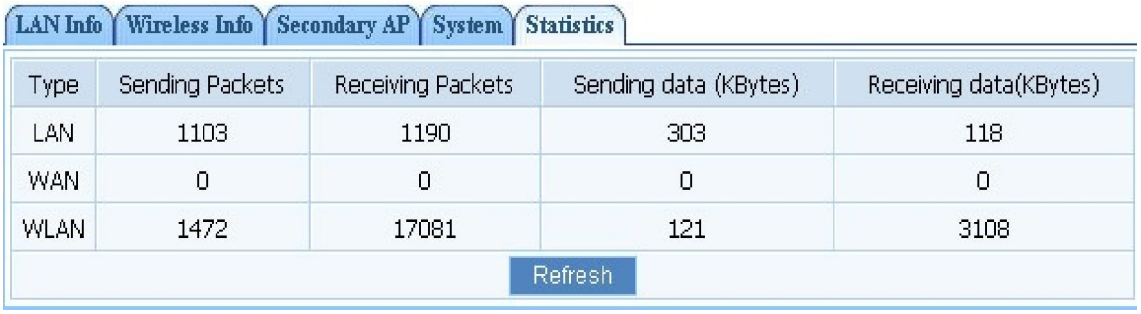

Figure 4-5

4.2 System Log

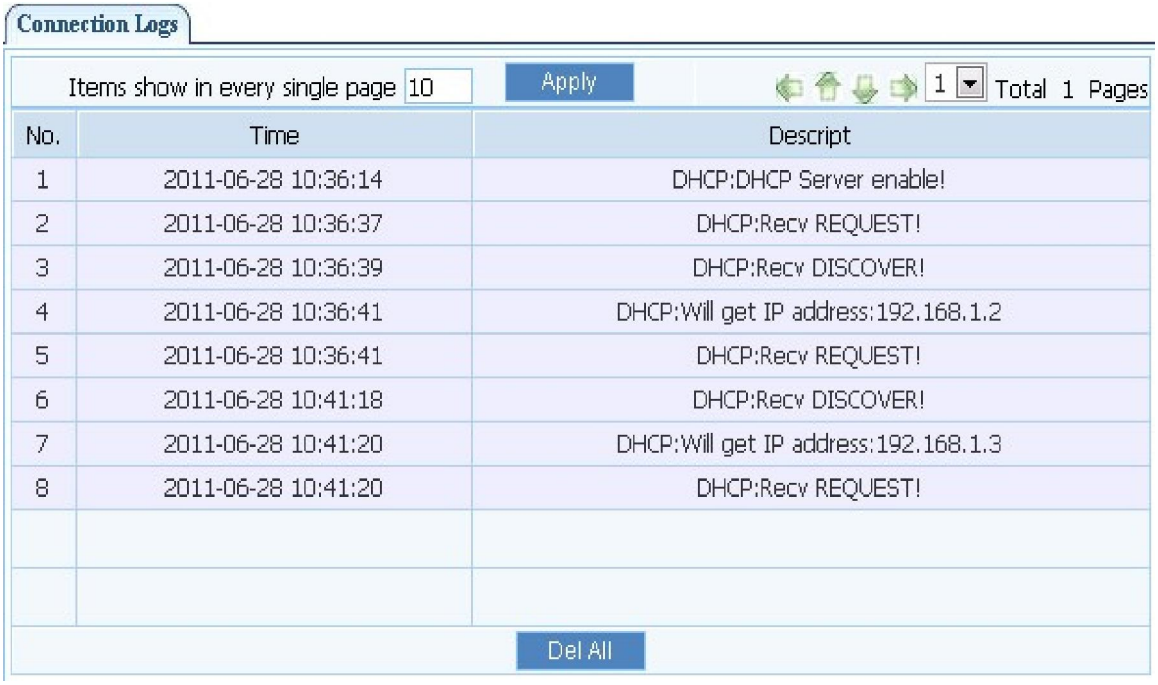
Connection Logs
Items show in every single page 10
Apply
1 Total 1 Pages
No. Time Descript
1 2011-06-28 10:36:14 DHCP:DHCP Server enable!
2 2011-06-28 10:36:37 DHCP:Recv REQUEST!
3 2011-06-28 10:36:39 DHCP:Recv DISCOVER!
4 2011-06-28 10:36:41 DHCP:Will get IP address:192.168.1.2
5 2011-06-28 10:36:41 DHCP:Recv REQUEST!
6 2011-06-28 10:41:18 DHCP:Recv DISCOVER!
7 2011-06-28 10:41:20 DHCP:Will get IP address:192.168.1.3
8 2011-06-28 10:41:20 DHCP:Recv REQUEST!
Del All

Figure 4-6

View the system log. You can set the number of records per page, default is 10.

4.3 Wireless Management

4.3.1 Wireless Setup

4.3.1.1Basic

Providing basic configuration items for wireless AP users, including “wireless network status”, “SSID”, “Radio Band”, “Radio Mode”, “MAC”, “SSID broadcasting”, “Channel width”, “Channel sideband”, “Region” and “Channel” several basic configuration items.

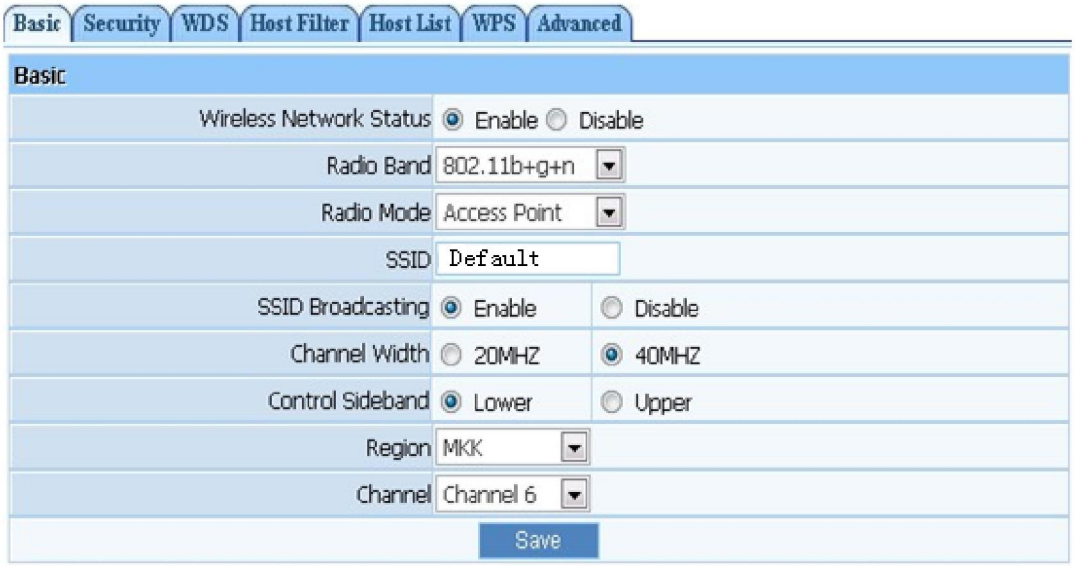

Figure 4-7

- Wireless network status: You can choose “enable” or “disable” to enable or disable the “Wireless Network Status”, if what you choose is “Disable”, the AP function of wireless router will be turned off.
- Radio band: You can select the wireless standards running on your network, if you have Wireless-N, and Wireless-B/G devices in your network, keep the default setting, 802.11b+g+n
- Radio mode: You can select radio mode of wireless router, it contains Access Point, Client, AP+WDS, Repeater and Lazy. The default setting is AP mode.
- SSID: The default is **Default.**
- SSID Broadcasting: You can select “enable” or “disable” to enable or disable the broadcast SSID function, If the setting of this field is disable, wireless client can’t obtain this SSID to login in, then user have to input the SSID value manually.

- Ø Channel width: This switch allows you to set Router's wireless bandwidth. 20MHz: In this mode you can get low bandwidth, little interference and slow rate. 40MHz: In this mode you can get high bandwidth, high interference and rapid rate. Use only when you have a pure router, draft 802.11n wireless network.
- Ø Channel sideband: It controls your wireless router use higher or lower channel when working on 40MHz.
- Ø Region: please select the region where you live in.
- Ø Channel: In 20MHz, you can select one channel from 1 to 13 manually, and in 40MHz, you can select one channel from 1 to 9 or 5 to 13, which provides a choice of avoiding interference.

4.3.1.2Security

The item allows you to encrypt your wireless communication, and you can also protect your wireless network from unauthorized user access. It supplies “None”, “WEP”, “WPA-PSK”, “WPA2-PSK” and “WPA/WPA2-PSK” five different encryption modes.

4.3.1.2.1None

“None” means do not encrypt wireless data.

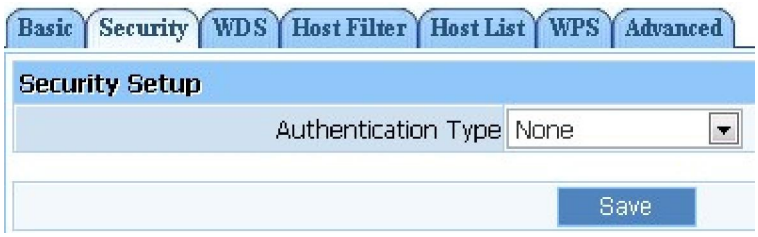

Figure 4-8

4.3.1.2.2 WEP

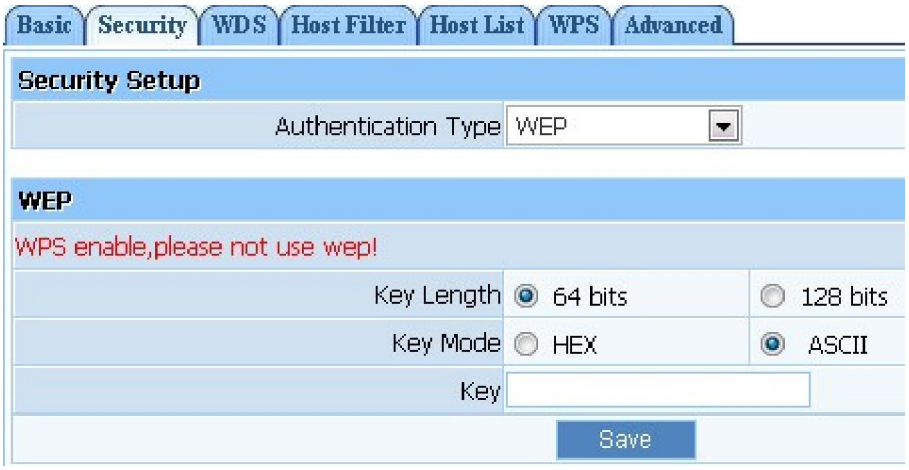

Figure 4-9

- Key Length: There are two basic levels of WEP encryption, 64 bits and 128 bits, the more bits password have, the better security wireless network is, at the same time the speed of wireless is more slower.
- Key Mode: If you select WEP to encrypt your data, choose the bits of password, it should be 64 bits or 128 bits. Then choose the format of password; it should be HEX or ASCII. The valid character for HEX format should be numbers from 0 to 9 and letters from A to F. HEX support mixed letter and number mode. And ASCII supports all characters that in keyboard.
- Key Length description: when you select 64bits, you need to input 10 chars for HEX and 5 chars for ASCII, and when you select 128bits, you need to input 26 chars for HEX and 13 chars for ASCII.

Note: when the WPS is enabled, please not use WEP.

4.3.1.2.3 WPA-PSK

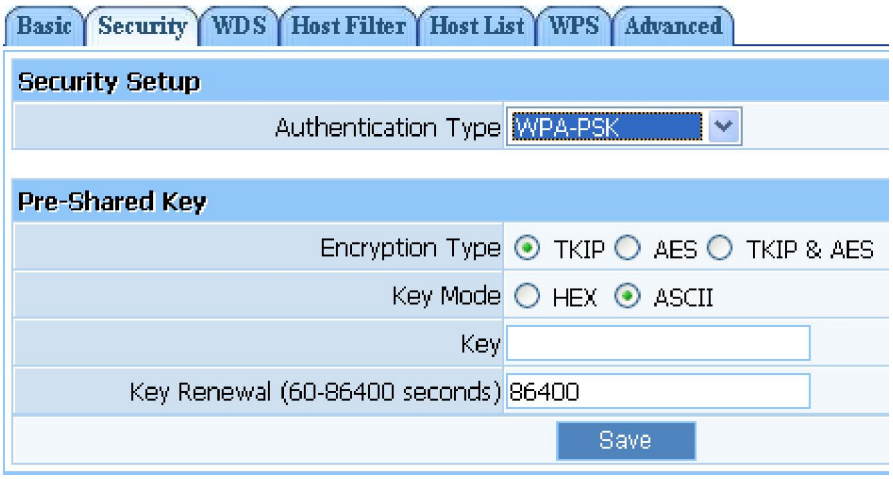

Figure 4-10

- Encryption type: You can select the algorithm you want to use, TKIP, AES or TKIP&AES. TKIP means “Temporal Key Integrity Protocol”, which incorporates Message Integrity Code (MIC) to provide protection against hackers. AES, means “Advanced Encryption System”, which utilizes a symmetric 128-Bit block data.
- Key Renewal: you can configure the renewal time between 60 to 86400 seconds.
- Key Length description: you need to input 8 to 63 ASCII characters no matter which type you select.

4.3.1.2.4 WPA2-PSK

The WPA2-PSK is similar to WPA-PSK and with stronger encryption method than WPA-PSK, using WPA2-PSK; you should input password (leave this value in the range of 8 to 63 characters) and key renewal time (leave this value in the range of 60 to 86400 seconds).

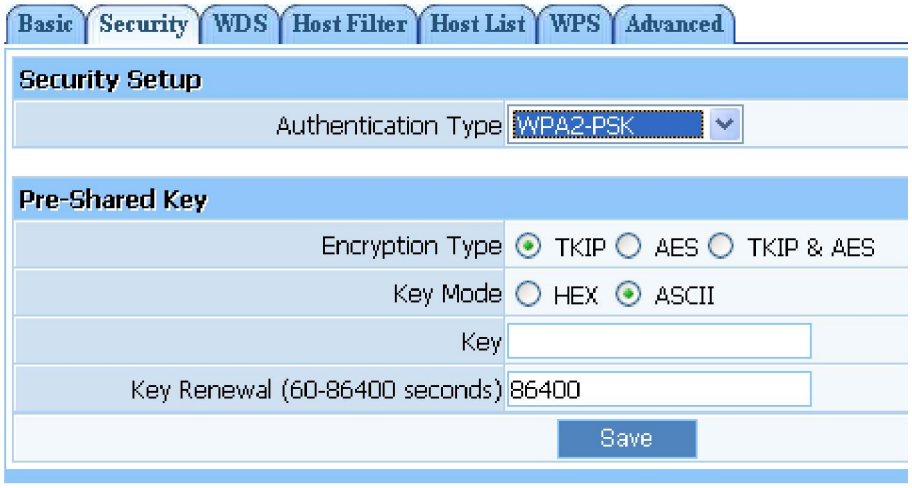

Figure 4-11

4.3.1.2.5 WPA/WPA2-PSK

This item mixed WPA-PSK and WPA2-PSK mode, which provides higher security level; you can configure it according with WPA-PSK or WPA2-PSK.

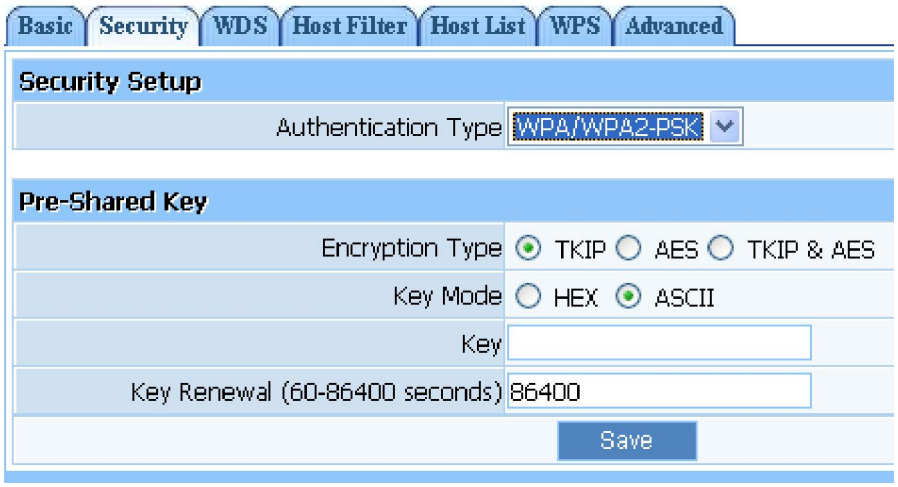

Figure 4-12

4.3.1.3 WDS

If you have selected WDS or AP+WDS mode in Wireless Basic-Radio Mode, please do the following configurations.

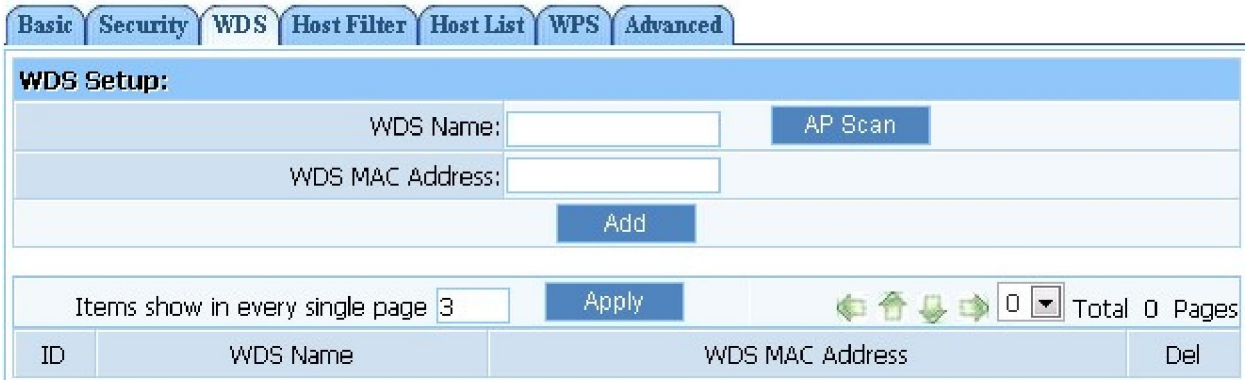

Figure 4-13

Ø WDS Name: Give a description of your wireless bridge to tell apart.

Ø WDS MAC Address: If the current working mode is “WDS” or “AP+WDS”, then you need to configure wireless bridge configuration. Enter MAC address of remote access point, at the same time the remote access point also need to configure to “WDS” or ”AP+WDS” mode.

Ø Current WDS Information: It illustrates basic information of all wireless bridge that in connection status, you may delete unnecessary bridge.

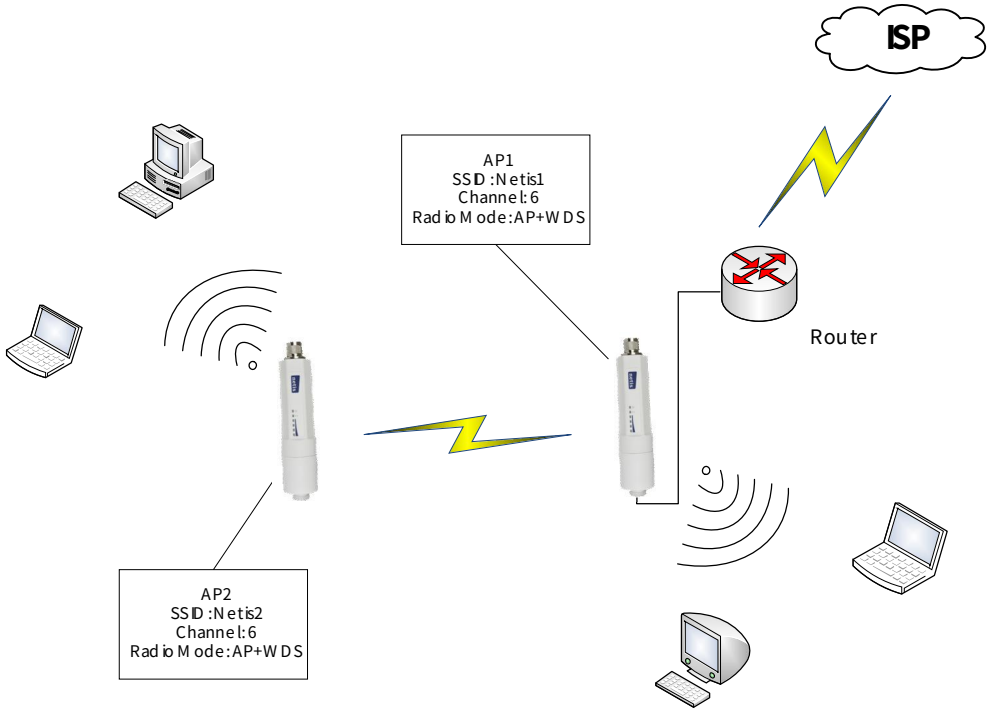

Figure 4-14

AP1:

Ø Select radio mode is WDS or AP+WDS in wireless management-basic of AP1.

Ø Click on ‘Wireless Management’- ‘AP Setup’- ‘Security’ and select and save None as authentication type.

- Ø Click on ‘Wireless Management’- ‘AP Setup’- ‘Security’ and select and save None as WDS authentication type or select a WDS security type, enter key and save.
- Ø Input WDS name (e.g.: default), input MAC address of AP2 (00-22-4f-bc-af-5d), click add, then the record named default will appears in WDS list.
- Ø Select Channel is ‘Channel 6’in wireless management-basic of AP2.

AP2:

- Ø Select radio mode is WDS or AP+WDS in wireless management-basic of AP2.
- Ø The IP address of AP2 should be 192.168.1.x (1<x<255,e.g.: x=8).
- Ø Select ‘LAN setup’-‘DHCP server’ ,select disable DHCP server.
- Ø 4. Input WDS name (e.g.: Default), input MAC address of AP1 (00-22-4f-cc-ae-f5), click add, then the record named Default will appears in WDS list.
- Ø Select Channel is ‘Channel 6’in wireless management-basic of AP2.

Note: Before you setup WDS connection, please make sure that AP1 and AP2 is in the same network, that is if the IP address of AP1 is 192.168.1.1, then the IP address of AP2 should be 192.168.1.x (1<x<255,e.g.: x=8).

4.3.1.4Host Filter

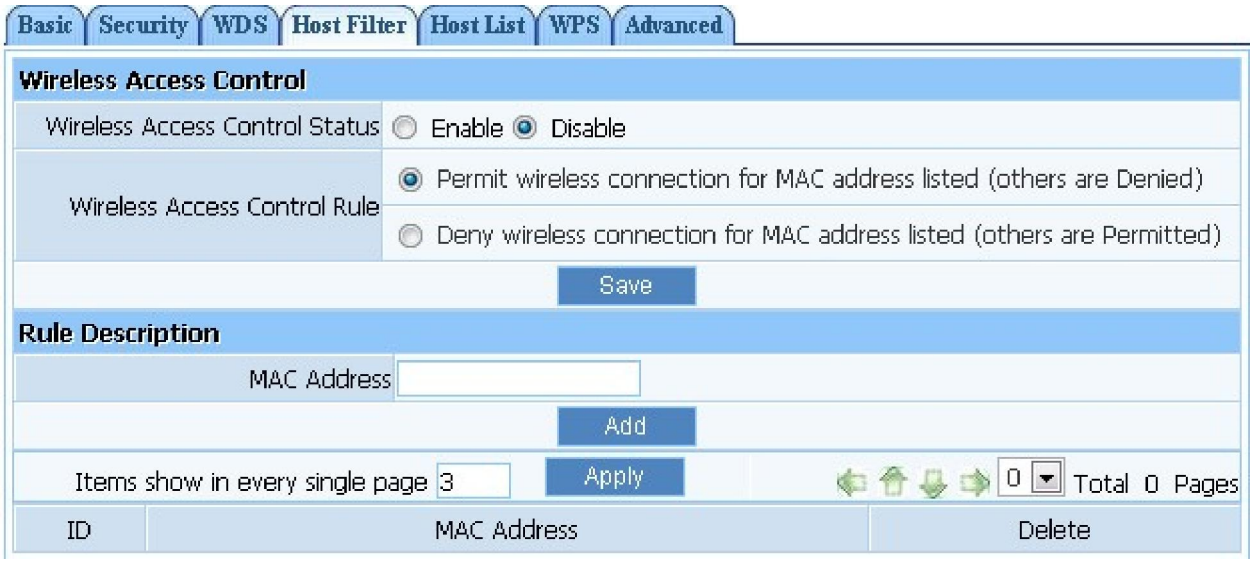

Figure 4-15

- Ø Wireless Access Control Status: the default is disable. You can filter wireless users by enabling this function; thus unauthorized users can not access the network.
- Ø Wireless Access Control Rule: you can select permit or deny. The default is permit.
- Ø MAC address: input the MAC address that you want to control. The default format is

--**-**-**-** (e.g.: 00-22-33-da-cc-bb) .

Follow the following steps to set Wireless Access Control:

1. Enable Wireless Access Control, then select save.

2. Add MAC address you want to control in the "MAC address" field (the format is **-**-**-**-**-**), then click "Add" button, and you will see the MAC address has displayed in the MAC list.

3. There are two items supplied, "Permit wireless connection for MAC address listed (others are Denied)" and "Deny wireless connection for MAC address listed (others are Permitted)", Select the item you want, and click "Save" button.

Note: If you turn on the wireless access control, and wireless access control rules to select the "Allow wireless connection table in the MAC (MAC-to prohibit other wireless connection)," the bottom of the MAC access control list does not record, then any host are can not access the wireless network.

4.3.1.5Host List

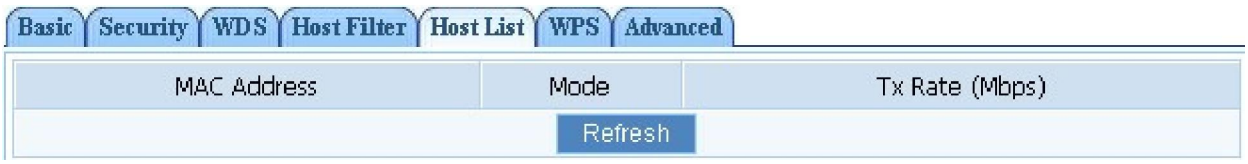

Figure 4-16

All this shows the current wireless access point by access to the state of the wireless station, easy to manage.

4.3.1.6WPS

Wi-Fi Protect Setup (WPS) function can let you create a safety network easily. You can through 'PIN Input Config (PIN)' to encrypt your network.

Note:

If you have configured encryption mode in your router, then when you use this WPS function, please configure the authentication type to none, and then it will be encrypted to WPA2-AES mode automatically. If you don't want to change your authentication type, then when you use this function, the router will be encrypted to the mode that you have configured.

Figure 4-17

- WPS Status: you can use this function to setup the wireless connection between this router and wireless network card. The default is disable.
- AP PIN Code: this code can mark a wireless product
- Wireless Host PIN Code: input the PIN of wireless network card that support WPS function. Click connect, when it connect successfully, it will be encrypted to WPA2-PSK
- WPS PBC settings: Click connect, when it connect successfully, it will be encrypted to WPA2-PSK

WPS can connect the wireless adapter and the router in a safe way. If you have a wireless network card which has WPS button, you may set up a safe network via the following methods

Method 1:

1. Input the PIN code of the adapter's WPS page into the router's WPS configure page, then click 'connect'

Wi-Fi Protected Setup (WPS)
An easy and secure setup solution for Wi-Fi network
Pin Input Config (PIN)
After pushing the PIN button.Please enter the PIN code into your AP.
PIN Code : 35229155

Figure 4-18

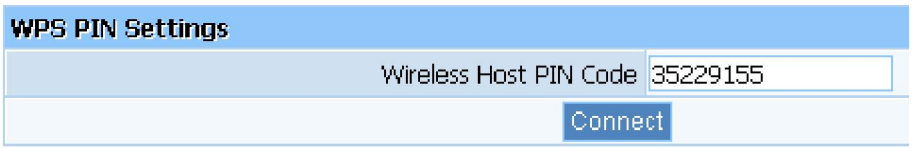

Figure 4-19

2. Push the ‘PIN Input Config (PIN)’ in the Wi-Fi protect setup of the adapter

Figure 4-20

3. Select this AP in the pop-up window, then click ‘Select’

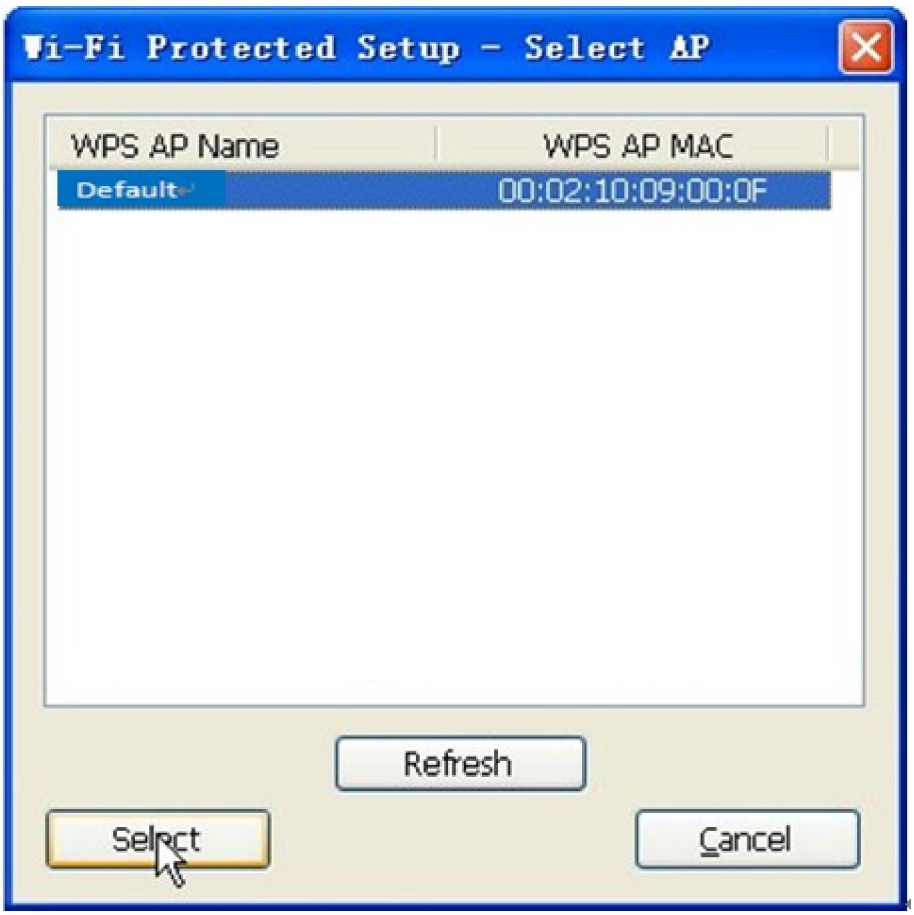

Figure 4-21

4. Please wait until the following window appears, the connect between the adapter and the AP will connect automatically

Wi-Fi Protected Setup - PIN method
Wi-Fi Protected Setup - PIN method
Please enter the following PIN code into your AP .
PIN Code : 35229155
Status : Selected AP ... [Netcore]
Cancel

Figure 4-22

Method 2:

1. Click ‘connect’ in the router’s WPS PBC configure page

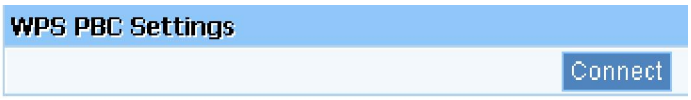

Figure 4-23

2. Push the ‘Push button Config (PBC)’ in the Wi-Fi protect setup of the adapter until the following picture appears

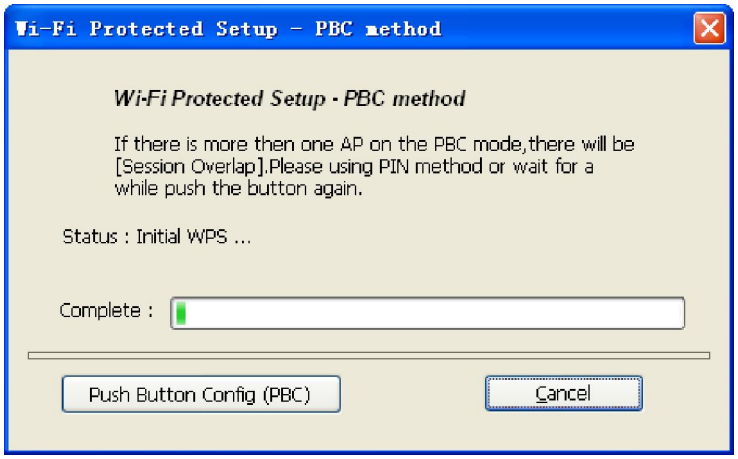
Wi-Fi Protected Setup - PBC method
Wi-Fi Protected Setup - PBC method
If there is more then one AP on the PBC mode,there will be [Session Overlap].Please using PIN method or wait for a while push the button again.
Status : Initial WPS ...
Complete :
Push Button Config (PBC)
Cancel

Figure 4-24

3. The next is the safe connection between the adapter and the AP, please wait

4. The connect between the adapter and the AP is success

4.3.1.7 Advanced

These settings are only for more technically advanced users who have a sufficient knowledge about wireless LAN. These settings should not be changed unless you know what effect the change will have on your AP.

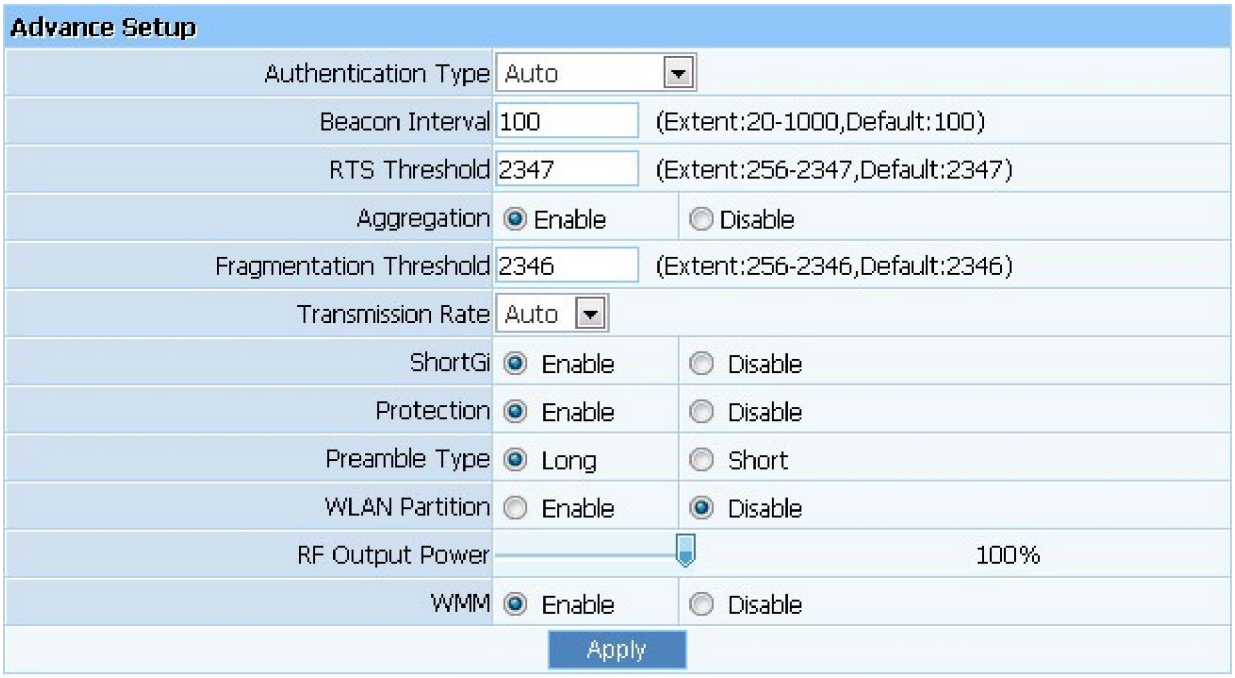

Figure 4-25

- Authentications type: The default is set to “Auto”, which allows “Open System” or “Shared Key” authentication to be used. Select “Shared Key” if you only want to use “Shared Key” authentication (the sender and recipient use a WEP key for authentication).
- Beacon Interval: The interval time of this 150Mbps Wireless-N Gigabit Router broadcast a beacon. Beacon is used to synchronize the wireless network. The valid interval is 20-1000, the default is 100.
- RTS Threshold: You can set RTS Threshold value in this field, the valid range should be 256-2347 and default value is 2347. If a network packet is smaller than the preset RTS threshold size, the RTS/CTS mechanism will not be enabled.
- Aggregation: You can accelerate the wireless transmission speed by enabling the aggregation function. The default is AMPDU＋AMSDU.
- Fragmentation Threshold: It specifies the maximum size of packet during the fragmentation of data to be transmitted.
- Transmission Rate: Transmit rate indicates the transmission speed of wireless LAN

access .The default setting is “Auto” and you can set this value between 1-54Mbps range.

Ø ShortGi: You can select “Enable” or “disable” for shortgi.

Ø Protection: Using 802.11b and 802.11g mixed mode may result in poor network performance. By enabling 802.11 protection, it will ameliorate performance of 802.11g devices in your wireless network.

Ø Preamble Type: "Short Preamble" is suitable for heavy traffic wireless network. "Long Preamble" provides much communication reliability; the default setting is "Long Preamble”.

4.3.2 Multiple AP Setup

The wireless AP supports multiple AP, if you need to open more than one AP, you can choose to open vice AP function. As priority , vice AP only set the SSID and security management.

The default status of secondary AP is disable , you can select enable to enable the secondary AP. Please refer to “Wireless Setup Basic” and “Wireless Security” for details.

Figure 4-26

Figure 4-27

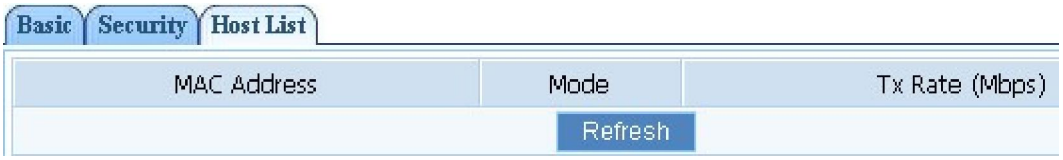

Figure 4-28

4.4 Wireless LED Thresholds

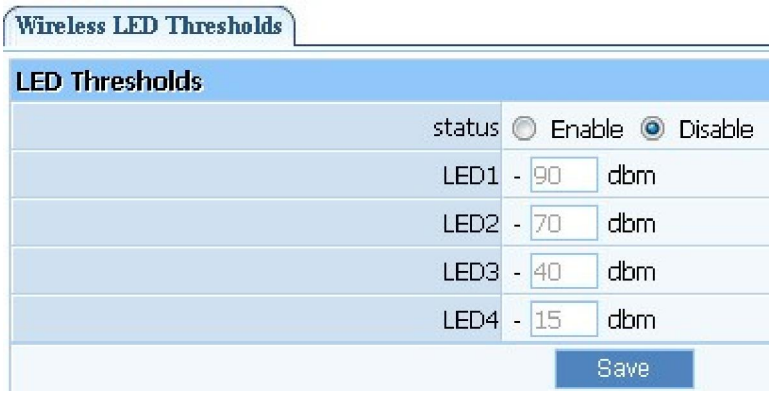

Figure 4-29

Please set the AP to the external LED lights and wireless signal strength received correspondence, when the AP receives the wireless signal, according to the wireless signal strength, the corresponding LED will be lit.

4.5 LAN Setup

According to actual needs, you can choose on or off the DHCP server, and also modify the DHCP address pool range.

4.5.1 LAN IP Address

The IP address of LAN port is used for access router itself by computers that connect to the router directly; here you can set IP address you need. The IP address format is like ***.***.***.***, and default IP address is 192.168.1.1, the default subnet mask is 255.255.255.0.

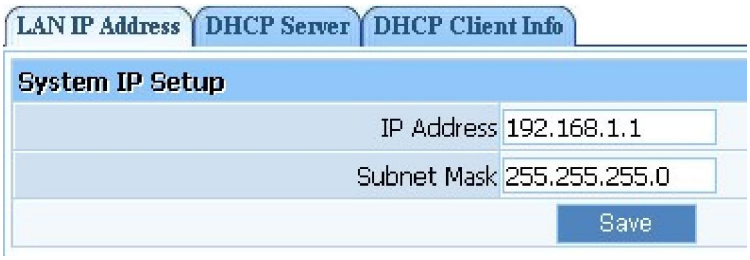

Figure 4-30

4.5.2 DHCP Server

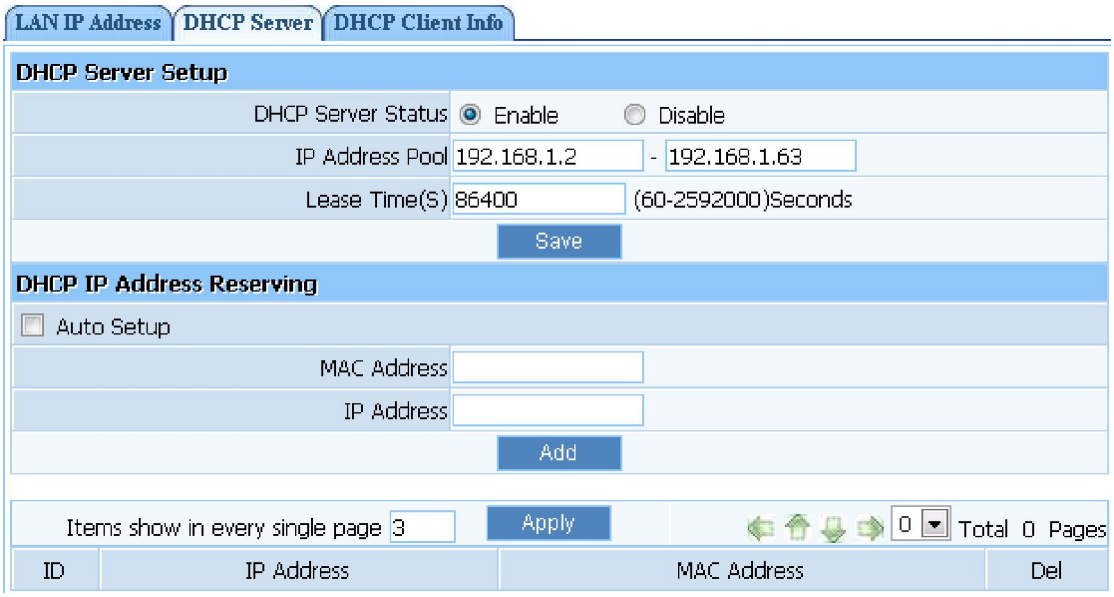

Figure 4-31

Ø DHCP Server Status: Keep the default setting “Enable”, so router is able to use DHCP function. If a DHCP server has already existed in the network, please select “Disable”.

Ø IP Address Pool: The IP Address pool is used for allocate IP address by DHCP server; The IP Address pool range is also changeable

Ø DHCP IP Address Reserving: reserve IP address for designed physical address host. If you want to configure a fixed IP address for some host, please input physical address and IP address, then click add

4.5.3 DHCP Client Info

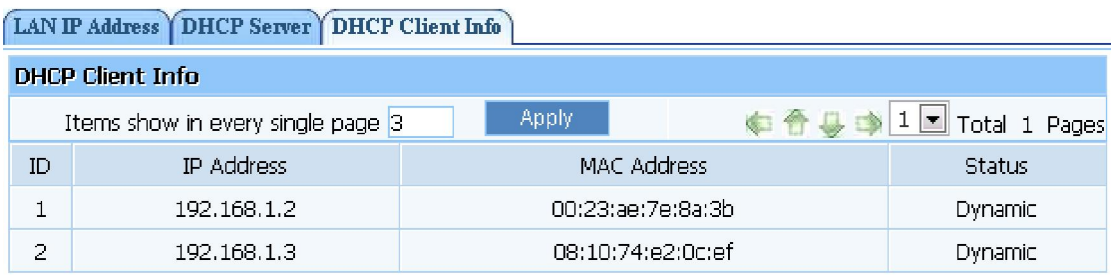

Figure 4-32

Display the state of assigned IP by DHCP Server

4.6 Applications & Game

4.6.1 UPnP

The UPnP function supports load Application's port forward record automatically. Select "Enable" to enable this function.

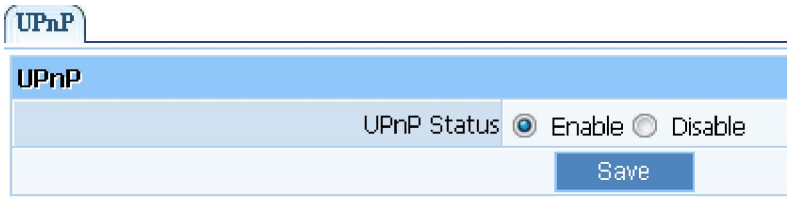

Figure 4-33

4.7 Routing

Most of AP and wireless router are using NAT mode, so this feature is designed for most common network environment.

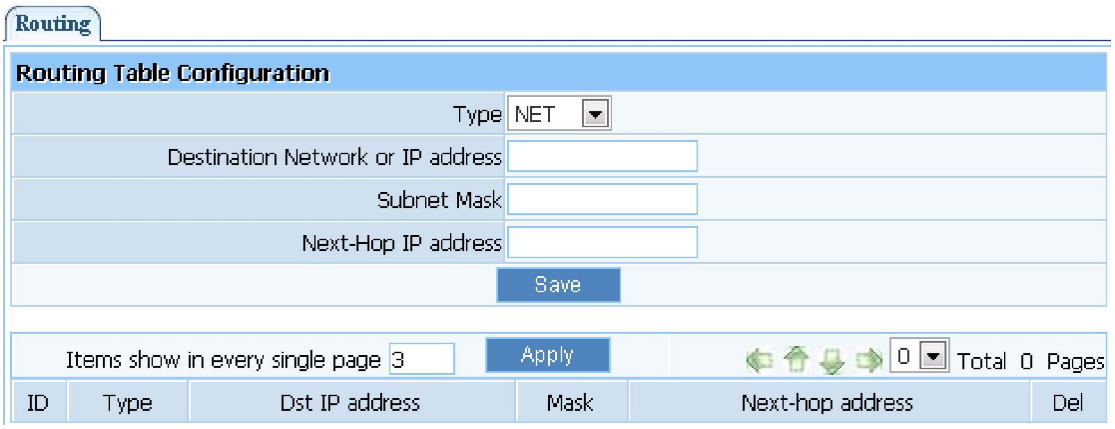

Figure 4-34

- Destination Network or IP Address: Specify a certain destination Network or IP address which static route forward to.
- Subnet Mask: Subnet mask is used for distinguish Network portion and Host portion for an IP address.
- Next-hop IP Address: This is an IP address of the next-hop device (and also is the gateway address for local host) that allows forwarding data between router and remote network or host.

Routing Table: You can check out all current route items, click "delete" button to delete an route

item existed in routing table.

4.8 System Management

System management includes password setup, upgrade, reboot, restore, WOL and System time

4.8.1 Password Setup

The default username/password is guest/guest. To ensure the AP's security, it is suggested that you change the default password to one of your choice, here enter a new password and then Re-enter it again to confirm your new password. Click "Save" button to save settings.

Figure 4-35

4.8.2 Upgrade

Click "Upgrade" and select a File to upgrade, after you have selected the appropriate file, click "Upgrade" button to execute upgrade procedure. Do not cut off the power supply during the process of upgrading.

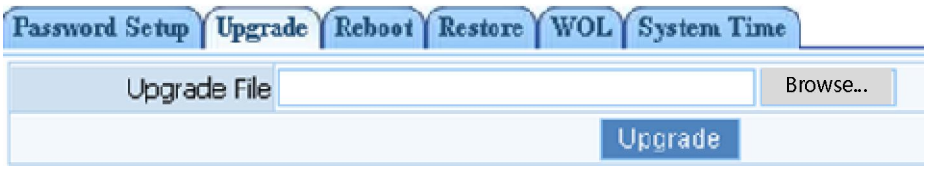

Figure 4-36

4.8.3 Reboot

Click "Restart" button to restart the router.

Figure 4-37

4.8.4 Restore

Click "Restore" button, the Router will erase all of your settings and replace them with the factory defaults, make sure you have backup current settings before click this button.

Figure 4-38

4.8.5 WOL

Input host MAC address, and then click button of "Wake up" to wake up the target host which in the LAN.

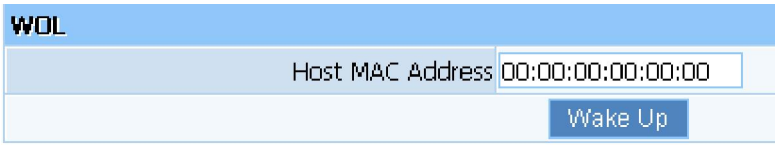

Figure 4-39

4.8.6 System Time

You can choose the time server and the time zone for the system time.

Figure 4-40

5 Troubleshooting

1. I cannot access the Web-based Configuration Utility from the Ethernet computer used to configure the AP.

Ø Check that the LAN LED is on. If the LED is not on, verify that the cable for the LAN connection is firmly connected.

Ø Check whether the computer resides on the same subnet with the AP's LAN IP address.

Ø If the computer acts as a DHCP client, check whether the computer has been assigned an IP address from the DHCP server. If not, you will need to renew the IP address.

Ø Use the ping command to ping the AP's LAN IP address to verify the connection.

Ø Make sure your browser is not configured to use a proxy server.

Ø Check that the IP address you entered is correct. If the AP's LAN IP address has been changed, you should enter the reassigned IP address instead.

2. I forget Password (Reset the AP without Login)

Ø Use a pencil to press and hold the Default button on the back panel of the AP when it is working, wait for a few seconds until the SYS LED indicator stays green.

Ø After the above those steps, the manufacture's parameters will be restored in the AP. The default password is guest.

3. My wireless client cannot communicate with another Ethernet computer.

Ø Ensure the wireless adapter functions properly. You may open the Device Manager in Windows to see if the adapter is properly installed.

Ø Make sure the wireless client uses the same SSID and security settings (if enabled) as the Wireless AP

Ø Ensure that the wireless adapter's TCP/IP settings are correct as required by your network administrator.

Ø If you are using a 802.11b wireless adapter, and check that the 802.11G Mode item in Wireless Basic Setting page, is not configured to use 802.11G Performance.

Ø Use the ping command to verify that the wireless client is able to communicate with the AP's LAN port and with the remote computer. If the wireless client can successfully ping the AP' s LAN port but fails to ping the remote computer, then verify the TCP/IP settings of the remote computer.